

# THE DEVELOPMENT OF ARABIC NUMERALS IN EUROPE

By G. F. HILL

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IN EUROPE



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EXHIBITED IN SIXTY-FOUR TABLES

By G. F. HILL

Corpore in exiguo res numerosa fui

EPITAPH



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## NOTE

The useful article by Albert R. Frey, on the Dated European Coinage prior to 1501 (*American Journal of Numismatics*, 1913, pp. 1-92), appeared too late to be consulted in the preparation of this volume.

## INTRODUCTION

THIS book is a development of a paper which was read to the Society of Antiquaries of London on April 14, 1910, and printed in *Archaeologia*, Vol. LXII. My thanks are due to the President and Council of that Society for allowing me to republish the paper in a revised and much augmented form, and for placing at the disposal of the Clarendon Press the blocks of the original Tables and Illustrations.

The object of the compilation may best be described by explaining how it originally came to be undertaken.<sup>1</sup> The date 1481, which occurs

<sup>1</sup> The bare references which are made here and there to friends and correspondents, who have assisted in the collection or verification of material, are wholly inadequate to express the measure of my indebtedness; and some kind offices may, I fear, have escaped even that meagre acknowledgement. Nevertheless I must content myself here with a brief *gratiarum actio* to those who have placed me under very special obligation, such as Mr. C. R. Peers, to whose encouragement the undertaking and completion of the task are mainly due; Mr. J. A. Herbert, who from the beginning spared no pains to note material which might be (and always was) of service, and gave me particular facilities for working at it; the late Mr. Max Rosenheim, whose knowledge of German seals, coins, and medals was of great service; Dr. Kurt Regling, of Berlin, who took infinite pains in connexion especially with my inquiries about German seals, a subject on which I also owe much information to Dr. August Ritter von Loehr of the Vienna Museum; Prof. David Eugene Smith, of Columbia University, recognized as a high authority on the archaeology of mathematics; Herr G. H. Lockner of Würzburg, to whom I owe a great deal of material, especially from that neighbourhood; Mr. Mill Stephenson, who has noted examples from brasses; Dr. George Macdonald, of the Scotch Education Office, to whose inquiries are due some interesting examples from Scotland; Mr. H. B. Walters, who has placed his great knowledge of English bells at my disposal; and M. J. A. Blanchet, whose bibliographical notes on the subject have been very useful. The deficiency in Italian examples, which was so evident in the first edition of these tables, has been largely repaired by the unflinching kindness and energy of Col. G. B. Croft-Lyons; other examples from the same country have been noted by Messrs. W. Ashburner, Wood Brown, and Eric MacLagan, as well as myself. An interesting series of MS. examples from Scotland has been provided by Messrs. R. K. Hannay and C. W. Yule, of the Edinburgh Register Office. In spite of the fact that these are nearly all after 1500, they were too interesting to be omitted. Signor A. Cappelli, of the Archivio di Stato at Parma, has courteously allowed me to compile the whole of Table XIII from his excellent



(Table LVIII. 15) on an Italian medal of the Sultan Mahomet II, by Costanzo of Ferrara, happened to be called in question. On inquiry it became clear that there was no reason to suspect this particular date on the ground of the forms of the numerals. But it was equally clear that there were other problems of the same kind more difficult of solution, and that the only way to approach them with any hope of success was to collect and classify as large a mass as possible of securely dated instances of the use of these so-called Arabic numerals. As always happens, the material proved to be a thousand times more plentiful, and by no means less difficult of verification, than he who light-heartedly undertook the research had supposed.

I do not wish to depreciate the work of my predecessors, to even the most casual of whom I am indebted more than I can say; but I have found no example of a systematic treatment of this subject in English, and only one, of a limited sort, in a foreign language.

What is now offered, in the shape of just 1000 classified examples, is nothing more than a *vindemiatio prima*. In hardly any of the numerous classes in which, with deep sense of the inadequacy of the classification, I have arranged the materials, can I claim to have collected anything like a fully representative series. And it would have been absurd to attempt, within the limits imposed by time and space, to envisage more than one aspect of the question. The mathematical history of the numeral system is outside my scope, even were I competent to deal with it. The whole problem as to the source through which these Indian numerals, if they are, as they seem to be, Indian, came to the West, has been avoided except for an incidental reference. That problem is the subject of numerous learned monographs, and any one who wishes to gain acquaintance with this perplexing subject may be referred to the very useful introduction thereto which has recently been published by D. E. Smith and L. C. Karpinski.<sup>1</sup> The present paper

*Dizionario delle Abbreviature.* Mr. Lewis Evans has kindly placed at my disposal the evidence furnished by his splendid collection of mathematical instruments. Dr. Paul Ganz, of the Basel Museum, generously lent me his note-books; hence the large number of Swiss examples which (may I be forgiven!) I have included in the German tables. These scholars, in the acknowledgements appended to the instances which they have supplied, are sometimes represented merely by their initials, which, however, will easily be identified from the details just given. I should like to add here my thanks to the reader of the Clarendon Press.

<sup>1</sup> *The Hindu-Arabic Numerals*, Boston and London, 1911. I may mention here that Brosset has published an Armenian cryptographic system which he supposes to belong to the eleventh century, showing the use of numerals approaching the European forms, and has called attention to Georgian inscriptions of the eleventh century which show figures resembling the Indian. But there seems to be some



has nothing to do with these numerals before they were established in the West, but, once so established, seeks to show their chronological and local distribution in a somewhat clearer fashion than is possible without a large collection of grouped facsimiles. It is perhaps unwarrantable to call them facsimiles. Only a highly skilled draughtsman could do justice to the *nuances* of the forms. But for reasons into which it is unnecessary to enter, nothing better was to be had than the rude penmanship which is reproduced in these Tables. 'And with this sword,' let me hope with Chaucer, 'shal I slen envie.'

In its original form, as published in *Archæologia*, this essay was provided with fifty-one Tables. The number is now increased to sixty-four. It has unfortunately been impossible, for various reasons, to incorporate all the new instances each in its proper chronological place in the old Tables. Such incorporation could not have been neatly effected without re-drawing the whole series. Consequently the new material has all been collected in Supplementary Tables; only the old Tables XLVI and XLIX-LI have been broken up and their contents incorporated in new ones. This arrangement is doubtless not ideal, but it is, so far as I can see, the only one that the circumstances permit. The reader will not, for instance, find all the instances in chronological order; but, except in rare cases, he will not find in the supplementary tables anything which contradicts the evidence of the old ones, so that the old can be used in order to obtain a general idea of the development of the forms, and afterwards checked for details with the help of the new. I have done what I can to ease the working of the system by means of cross-references.

In some ways it would be best to let the Tables, with the brief descriptive notes, speak for themselves. A few general remarks, however, may be of service, to explain the classification, to note certain instances which are omitted from the Tables, and to indicate certain lines on which further research might, one hesitates to say with profit, be made.

And first, as to the limits of the inquiry. As a general rule, I have tried to sweep into my net everything earlier than 1500 that came my way. But after that date I have exercised selection. Sometimes I have gone far into the sixteenth century; other Tables will show little after about 1510. The fact is that the instances become innumerable

possibility that his MS. is of the sixteenth, rather than of the eleventh century. Mr. Lewis Evans called my attention to this paper: *Variétés arméniennes*, in *Mélanges asiatiques tirés du Bulletin de l'Acad. Imp. des Sciences de Saint-Petersbourg*, V (1864).

after 1500, and many reasons conspired against including much after the time when the use of Arabic numerals had become universal.

Secondly, since it has been quite impossible to verify everything, the mere fact of my inserting any example in the Tables must not imply that I guarantee its existence at the present time. I fear that much that Gough or even Wright described may have disappeared by now.

The first sixteen Tables deal with manuscripts, under which heading are included a few dates on drawings. These manuscript instances are arranged for the most part according to their date; but it has seemed convenient to make here and there certain departures from strict chronological sequence. Notably, in Table I are grouped together the earliest instances of the numerals as used practically in the modern manner, and also a number of examples of the forms assumed by the Boethian *apices*. These signs, used in reckoning on the abacus, although clearly for the most part, if not altogether, derived from a similar source to the signs used in algorism, assumed highly fanciful forms, and did not develop logically. Also, as the method with which they were associated ceased eventually to be used, and as they never occur outside manuscripts, they lack interest from the point of view of this paper; yet it seemed desirable to record those instances which were found in the course of search for other things.

In the remaining Tables (II–XVI) the examples from MSS. are grouped as far as possible century by century; certain Tables contain groups which stand on the border lines and might be given by one authority to the end of one century, and by another authority (or by the same authority at a different time) to the beginning of the next. But within each century or chronological group an endeavour has been made to keep the MSS. of local schools together. Thus in Tables VIII foll. all the fifteenth-century instances are collected, but the English are kept together in VIII and IX, the German in X, the Italian in XII and XIII. This plan has the advantage of sometimes bringing out local characteristics very clearly, such as the 7-like German 5, the English o of the middle of the fifteenth century, shaped like a Greek  $\phi$ , the early upright Italian 4, and so on. Table XIV gives a few instances of Arabic numerals from Greek MSS.

The dating of these MSS., it should be stated, is not based on the forms of the numerals. They have been dated, for the most part by expert palaeographers, either according to substantial evidence, or by the general style of the writing. Nearly all the British Museum examples have been submitted to members of the staff of the Depart-

ment of MSS., whose monumental forbearance under exceptionally trying circumstances it would be unpardonable not to record.<sup>1</sup>

The traps which beset the unwary in the dating of the MSS. are of course innumerable. The assumption that the date given for the composition of a work is the date at which the MS. was written, is obviously hazardous; incautiousness in this matter has produced not a few 'early' instances of Arabic numerals. Such are the dates 1136, 1217, and perhaps 1245, which have been read in MSS. supposed to be contemporary.<sup>2</sup>

The numerals are first found in MSS. of the tenth century, but they cannot be said to have been at all well known until the beginning of the thirteenth.<sup>3</sup> During all this early period there is, perhaps naturally, considerable uncertainty in the forms, as a glance at Tables II and III will show. One group, of the end of the twelfth or the beginning of the thirteenth century (Table II. 5. 6), seems to be derived from an Eastern Arabic source, whereas the derivation of the more usual forms from Western Arabic is fairly well made out. But even here (cp. the 3 in Table II. 6, third row) one finds a fusion of the Eastern and Western forms.

In tracing development, especially in MSS., one is hampered by the fact that a scribe, copying from a MS. of a century or so before his time, may, if he is not familiar with the notation, reproduce forms which had really gone out of fashion. If he were much accustomed to use Arabic numerals he would be less likely to do this. This I think is the explanation of a very puzzling set, or rather sets, of numerals in a MS. of the late thirteenth century (Table V. 1). I confess that had I come across this MS. at the beginning of my search, I should have thought twice before going on. Here we have in use, alongside of a fully developed

<sup>1</sup> This applies especially to Mr. J. A. Herbert, whom I have mentioned above; but my warm thanks are also due to Sir G. F. Warner, Mr. J. P. Gilson, and other members of the staff of the Department. I hasten to add that for any blunders of statement or interpretation which may be found in this and in the other sections of this essay, I alone am responsible.

<sup>2</sup> See the list of doubtful examples at the end of this introduction, p. 21. I may mention here some remarkable series of numerals which are given in the *Barddas* of J. Williams ab Ithel (1862), at pp. 112, 113. Unfortunately (as I learn from Prof. Ifor Williams and Prof. J. Morris Jones), so much doubt exists as to the value and authenticity of the MS. sources, that I have thought best to exclude them bodily. My attention was called to them by Mr. W. E. A. Axon.

<sup>3</sup> Tassin and Toustain, *Nouveau Traité*, iv, p. vii, describe a fine MS. of the eleventh century, containing the works of the Benedictine Guido d'Arezzo, who gives the numerals in a treatise on the art of reckoning. I have not succeeded in verifying this, but doubtless the figures are merely Boethian apices.



form of 2, a form like a pruning-hook, of which the only other instances which I have found are in MSS. of the twelfth, or, at the latest, early thirteenth century (Table II. 2, 3). Then there is a very curious form of 3, like the pruning-hook 2 with an added line through it, alongside of a well-developed modern 3. To complete our perplexity comes a fully developed upright 7, beside the ordinary lambda-shaped form. The MS. contains elaborate astronomical tables, and the solution of the confusion probably is that the scribe was compiling from various MSS. It might be said that, if that were so, we should find the peculiar forms confined to certain columns, and not used along with the ordinary forms; but if he were familiar with only these ordinary forms he would be likely to intrude them here and there.

The upright 7 occurs in the tenth-century MS. which comes at the very beginning of the Tables; also in the two MSS. already mentioned as showing the pruning-hook 2 (Table II. 2, 3; in the latter we have also the lambda-7); in a MS. at Siena which has been dated to the thirteenth century (Table IV. 8); in an Italian MS. at Florence (Table VII. 16) which is generally admitted to be of the early fourteenth century, and which also shows the upright 4 and is indeed, so far as the numerals are concerned, extraordinarily advanced. After that, I have failed to find any instances until after 1400 (see Table XI). Yet the inquirer need not say in despair that he can find no rule, *numerisque fertur lege solutis*: these upright 7's are quite exceptional, and the occurrence of one in a MS. is *prima facie* reason for suspecting a comparatively late date. If these exceptions serve to impress upon us the truth that scientific exactitude is not attainable in palaeography, they will do no harm.

The forms that afford the best criteria are 2, 4, and 7; next comes 5, but it is the most freakish of all figures, and therefore a little untrustworthy. The others are practically negligible.

Allowing for exceptions, it may be said that the three-stroke form of 2, as opposed to the old 7-shaped form, does not appear before the second half, and is quite rare before the end, of the thirteenth century. The transition is well seen in an English MS. of about 1300 (Table V. 7). By the middle of the fourteenth century the old 7-shaped form has practically disappeared (see, however, Table VI. 9).

As to 4, there are a few examples in which a slight lifting of one of the legs gives to the old form an appearance of the modern (*e.g.* Tables IV. 2. VI, 16). These are, however, hardly misleading. The early instance in the Florence MS. (Table VII. 16) has already been mentioned. The transition to the upright form begins very gradually



after the middle of the fifteenth century in England (the latter half of Table VIII shows this clearly). Italy, however, is far ahead of other countries in this respect, showing a fully developed modern form both in monuments and in MSS. quite early in the fifteenth century. In Germany, the earliest certain instance appears to be a seal of 1461 (Table XXXIV. 3).<sup>1</sup>

Of 7 I have already spoken.

5 shows many fantastic forms, but the general character of the sign is the same. A curious intrusion of a Roman V into the Arabic series is shown in an early thirteenth-century MS. (Table IV. 2). This is of interest in connexion with the probability that what we call the Arabic 5 was an adaptation of the late Roman form.<sup>2</sup>

The 7-shaped German form of 5 is well illustrated in Table X. In MSS. it is superseded early in the sixteenth century by the more modern form; elsewhere it lasts longer. It is of course an intelligible development from the older form; but as soon as the upright 7 became established, it had to disappear. The instances analysed in Tables X and XXIII ff. illustrate the conflict.

The series given in Table XIV from Greek MSS. are derived partly from Eastern Arabic, partly from Western sources. No. 2 is exactly the same as the series in the eleventh-century Chartres MS. (Table I. 7). Nos. 3 and 8 are purely Western in appearance, save for the inverted 7 in the latter. Nos. 1, 4, 5, and 6 point to an Eastern Arabic origin; note the circular form of 5 in two of them, and with some of the forms (2, 3, 4, 5, 7) compare those in the Berlin MS. (Table II. 6).

After the MSS. I have placed series from British monuments. Although the material is scanty, and I have by no means collected all the known instances, it is not out of a merely false patriotism that I have placed them first. The Wells numerals (Table XVII. 1) are among the most interesting, and probably the earliest to be found anywhere outside MSS., even if we allow that fashions of epigraphy are apt to change more slowly in monumental than in manuscript work. The upright 7 from Elgin (XVII. 4) might possibly be traced to foreign influence; but Mr. Peers' suggestion, that the whole inscription is later than it professes to be, affords a more probable explanation. The

<sup>1</sup> A Heidelberg MS. from Kloster Salem shows the rivalry between the old and the new form in the years 1494-1499, the scribe using one form, the miniator another. *Anzeiger für Kunde d. Deutschen Vorzeit*, 1867, p. 161.

<sup>2</sup> Found, e.g., on coins of Justinian I, struck in A.D. 541-2 (W. Wroth, *Brit. Mus. Catal. of Imperial Byzantine Coins*, i, p. 31, no. 56). Mr. G. L. M. Clauson reminds me, however, that a form much like this late Roman 5 was used with the same value in India in the thirteenth century.

tendency to assimilate numerals to letters is noticeable in dates such as that of 1503 from St. Cross (Table XVII. 12) or that of 1534 from Eccleston (Table XVII. 20), and more especially in some of the brasses in Table XX. The h-shaped 5 is found reversed in a date in Brading Church, Isle of Wight, which has been read M1d13, but which, as Mr. Peers points out, is really  $\overline{A}$  (for Anno) 1513 (see Table XIX. 7).

Pages could be filled with instances of doubtful, misread, or misinterpreted dates on English monuments. Some of them will be found in the 'black list' at the end of this introduction (p. 21).<sup>1</sup>

Next follow the examples from Germany and German lands, more especially Austria. The evidence from the latter country is very plentifully published in the *Mitteilungen der kaiserlich-königlichen Central-Commission für Erhaltung und Erforschung der Baudenkmale*, the First Series and the Neue Folge, which I have abbreviated as *M.C.C.* and *M.C.C., N.F.* I have found no periodical giving such plentiful illustrations of monuments from Germany, with the result that examples of the use of Arabic numerals may seem to occur more frequently in Austria, as compared with Germany and other countries, than is really the case. Of the two countries, Germany and Italy, it is racially characteristic that while the Germans seem to be ahead in the practical use of the numerals, the Italians lead the way in the development of their forms. The fact that France produces hardly any examples cannot, I think, be wholly due to the accidents of search or publication.<sup>2</sup>

German examples are also well represented because it happens to have been a German who published the most elaborate study of the whole subject which has hitherto appeared. Mauch, in his articles in the *Anzeiger für Kunde der Deutschen Vorzeit*<sup>3</sup> for 1861, deals very fully with the German evidence, drawn from architectural monuments, seals, etc. He has, however, little to say about MSS., and even his monumental instances are mostly drawn from a comparatively limited

<sup>1</sup> English dates which I have not found time or opportunity to verify or use, but which should be included in any corpus, are 1483 and 1494 from Fountains, 1489 and 1494 from Ripon, all with the old forms of 4 (*Notes and Queries*, ser. iv, p. 375). Mr. H. B. Walters informs me that early dates (for bells) occur on bells at Greystoke, Cumberland (1524), Wood Ditton, Cambridge (1544), and Elmley Castle, Worcs. (1559, now recast). The iron scutcheon plate on the south door of the nave at Rendcombe Church, Gloucestershire, has six signs, of which the first, second, fourth, fifth, and sixth might be read as 10 417; but the third can hardly be explained as a figure. See *Arch. Journ.* vi. 291.

<sup>2</sup> The coins of René II of Lorraine should perhaps have been tabulated as French with more justice than where they have been placed (Table XLIII. 12, 14).

<sup>3</sup> Hereafter usually referred to simply as *Anzeiger*.

district. His articles are, nevertheless, the only serious attempt known to me at a systematic treatment of the subject.<sup>1</sup>

The dated German seals<sup>2</sup> are among the most interesting and also the most treacherous examples with which we have to deal. In Germany and in Austria, in the second half of the fifteenth century, it became quite the fashion for any person or corporation, to whom a grant of arms had been made, to place the year thereof on a seal of later date.<sup>1</sup> There are, however, undoubted instances of the use in the fourteenth century, which will be found in the Tables. Some doubtful examples will be found in the list on pp. 21 ff. under the years 1235, 1320, 1408, 1410, 1439, 1449, 1488.

Tables XXXV, XXXVI record a few German examples from miscellaneous objects, some quite late, but interesting because of their fantastic forms.

The reproductions of examples from German paintings (Tables XXXVII-XXXIX), as of those of Italy and the Low Countries, have been taken for the most part from the facsimiles in the official catalogues of the collections mentioned. These sources, supplemented by a few notes made by myself and various correspondents from actual pictures, ill represent the mass of interesting material which this class of objects affords.

In Tables XLI, XLII woodcuts, metal-engravings, and printed books have been lumped together, perhaps not very scientifically.<sup>3</sup>

<sup>1</sup> Some information may also be gained from Denzinger's articles in the *Archiv des histor. Vereins von Unterfranken und Aschaffenburg*, ix (1847), pp. 163, 178.

<sup>2</sup> A list of dated seals from 1369 onwards is given by Mauch in *Anzeiger* (1860), pp. 13 ff. See also E. Melly, *Beiträge zur Sigillographie*, and the various volumes of the *M.C.C.* referred to in the descriptions of Tables XXX-XXXIV. Outside Germany early seals with Arabic numerals are very scarce. The only instance from Holland that I have been able to include is the Dordrecht seal of 1482, which, perhaps somewhat unfairly, I have tabulated with the German examples (Table XXXIV. 6). England, curiously enough, offers an isolated example as early as 1410 (Table XXII. 4). G. Demay, *Inventaire des Sceaux de la Normandie* (1881), p. vii, gives 1503 (Philippe de Clèves, Seigneur de Ravenstein), 1511 (Denis, Abbé de Loos), and 1515 (George, Duke of Saxony) apparently as the earliest instances of the use of Arabic numerals for this purpose known to him! For some information as to German seals I have to thank Dr. E. Gritzner of Weimar; he notes, for instance, the seals of the city of Munich of 1478, and of Weissenhorn in Bavaria ('S' civium in Wessenhoren 1476') Dr. Theodor Hampe has kindly enabled me to obtain reproductions of a certain number of seals in the Germanisches Nationalmuseum at Nürnberg.

<sup>3</sup> My thanks are due to Mr. Pollard and Mr. Scholderer for information with regard to early printed books, both German and Italian. I am assured that the mark of Caxton, which appears to combine an ancient 4 with a modern 7, should not be regarded as embodying a date.



The list of examples from printed books might of course have been made very much larger, but with doubtful profit.

The series of Swiss coins, and of coins, jetons, and medals of the Low Countries, are in various ways interesting; the former (Table XLVI. 1) as affording the earliest known instance of a Western coin proper dated in Arabic numerals;<sup>1</sup> the latter as showing a fairly continuous run of dates from the last quarter of the fifteenth century onwards, and illustrating the reluctance of the old forms of 4 and 7 to disappear.

The forms of the numerals 2, 3, 4, 5, which occur on certain *rifacimenti* of the famous late fourteenth-century medal of Constantine seem to me to belong to the early sixteenth century, and to be Flemish. Cp. *Num. Chron.*, 1910, pp. 115 f.

In connexion with these examples from the Low Countries I may

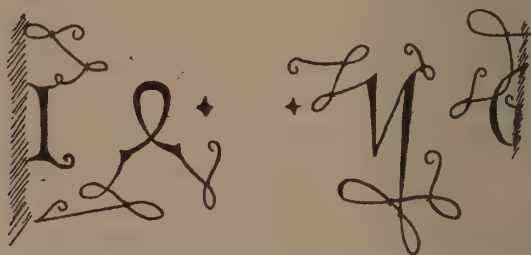


Fig. 1. On a painting in the Liechtenstein Collection.

notice the puzzling dates on the Flemish tapestry of the 'Triumph of Chastity' in the Victoria and Albert Museum, to which Mr. Maclagan has directed my attention. The date 1507 (with the lambda-7) is quite normal, and suits the style of the work. But on the same piece is a date which can as it stands only be read as 1570 (with the modern 7). Since there is considerable space between the 7 and 0 it may be that the bottom stroke of a Z-shaped 2 was omitted in weaving, as Mr. Maclagan suggests, in view of the carelessness or illiteracy that is elsewhere perceptible in the inscriptions. The date would then be 1520, representing the date of the completion of the work. Other explanations suggest themselves (as a mistake of 1570 for 1507), but they are less probable.

It is convenient here to note the graceful instance (1456) from the

<sup>1</sup> The earliest occurrence of a date in Arabic numerals on a coin is found in the reign of Roger of Sicily, 533 A.H.=1138 A.D. See E. v. Zambaur, *Contributions à la Numism. Orientale*, *Num. Zeitschr.*, xxxvi, p. 83. But this occurs as part of an Arabic inscription. I owe the reference to Mr. J. Allan.



portrait in the Liechtenstein Collection, formerly attributed to Jean Foucquet, but now rather to the school of Jan van Eyck (fig. 1<sup>1</sup>).

Table LIII includes a few medals, some of which are French, others perhaps Italian, while even in those which are certainly French, Italian influence is strongly felt.

Tables LIV-LVI are compiled, as I have already indicated, chiefly from official catalogues.<sup>2</sup> Table LVII is mainly from Fortnum's *Majolica*. Tables LVIII and LIX, on the other hand, are nearly all compiled from original medals, plaster casts, or good photographic reproductions. Research has confirmed much that seemed doubtful in this group; thus the Carrara medals, dated 1390, are now definitely proved to be contemporary.<sup>3</sup> The incised dates on Table LVIII. 5, 6 cannot be doubted. The appearance of the old form of 4 in Table LVIII. 12, 13 is explained in the notes to the Table.<sup>4</sup>

Italy affords one of the most striking instances of the necessity of some such collection as I have endeavoured to make: the date 800 on the sarcophagus of Pagavus Petrasanta at Milan, which is obviously and without question of late origin.<sup>5</sup>

A curious problem is presented by the 1470 reproduced in fig. 2. The numerals are incised on the sole of the right sandal of a statuette of Marcus Aurelius on horseback, a copy of the famous statue on the Capitol.<sup>6</sup> The statuette (which is in the Vienna Museum) has been

<sup>1</sup> *Zeitschr. für bild. Kunst*, 1912, p. 157. I owe the reference to Mr. A. F. Gow.

<sup>2</sup> 1464 is to be seen on a painting by Antonazzo Romano at Rieti (*Rassegna d'Arte*, 1909, p. 43) and on the banner with Our Lady protecting Perugia painted by Benedetto Bonfigli (Heywood, *Perugia*, at p. 299); 1475 on a fresco by Matteo da Gualdo in San Paolo, Assisi (*L'Arte*, 1913, p. 52). 1475 on a pietà at Cimiez, Nice, by the Niçois painter Louis Bréa, and 1499 on an Annunciation by him at Lieuche, may perhaps be mentioned here rather than among French instances (*Gaz. des Beaux-Arts*, 1912, t. vii, pp. 381, 412).

<sup>3</sup> See especially Guiffrey in *Rev. Num.* (1891), pp. 17-25, and J. von Schlosser in *Jahrb. d. kunsthist. Samml. des A.-H. Kaiserhauses*, xviii (1897), pp. 64 ff.

<sup>4</sup> These tables of Italian medals may claim to be fairly representative; but I have not been able to verify the following: 1460, Borso d'Este (Heraeus, pl. lii. 1); 1490, Unknown woman (Armand, iii. 183 D); 1498, Gianfrancesco della Rovere (Armand, ii. 106. 22); not to mention some later than 1500. False instances will be found in the list (p. 21f.) under the years 1455, 1488, 1498. 1467, on a plaquette by Enzola (Armand, i. 46. 13), is authentic.

<sup>5</sup> From Messrs. A. H. S. Yeames, Walter Ashburner, Eric MacLagan, and Dr. Wood Brown I have received notes of a large number of instances from various places in Italy, dating from 1422 onwards; but it has not been possible to reproduce as many as I could have wished. Mr. A. F. Gow informs me that 1461 occurs on a relief by Bellano in the André Collection and not (as Venturi says, vi, p. 487) on the Berlin terra-cotta of the same subject.

<sup>6</sup> I am obliged to Ritter A. von Loehr for the photograph from which the illustration is made.

ascribed to L'Antico,<sup>1</sup> although the date creates serious chronological difficulties. However, in his splendid monograph<sup>2</sup> on L'Antico, Dr. H. J. Hermann definitely discards the attribution to L'Antico, chiefly because of the date. He urges that the figures must represent a date, not an inventory-number, since few collections at that period could have contained so many as 1470 objects of this kind. I may add that an inventory-number would be incised after the object had been acquired for the collection, whereas these figures have the appearance, at least in the photograph, of having been incised in the soft material of the original model. It is just conceivable that it was an opus-number,



Fig. 2. The date 1470 on a bronze statuette of Marcus Aurelius, Vienna Hofmuseum.

incised by the artist at the last moment before casting. The point, however, which chiefly concerns us at present, is this: if this is a fifteenth (*a fortiori* a sixteenth) century *Italian* bronze, how come these archaic forms to appear on it; forms that had long vanished from Italian arithmetic, unless the evidence marshalled in this paper contains even more serious gaps than I had suspected? There is nothing northern about the style of the bronze, although it is difficult to judge of such a matter in a close copy of an antique. Perhaps the most probable solution is that it is the work of a northern artist who had settled in Italy, but had not acquired the Italian style of writing.

Dr. Hermann points out that the statuette may have been made in connexion with the repairs to which the statue was subjected in the reign of Paul II. These were begun in 1466, and as the work was still unfinished in 1470,<sup>3</sup> the statuette may well be connected with the restorer's task. But whatever be the explanation of the numerals, analogies must be found before we can accept them as having been incised by an Italian in the fifteenth or early sixteenth century.

The Italian engravings and printed books do not offer much of

<sup>1</sup> See, for instance, J. von Schlosser, *Werke der Kleinplastik in der Skulpturensammlung des A.-H. Kaiserhauses*, i, p. 4, pl. x.

<sup>2</sup> *Jahrbuch der kunsthist. Sammlungen des A.-H. Kaiserhauses*, xxviii (1910), pp. 268, 271.

<sup>3</sup> E. Müntz, *Les Arts à la Cour des Papes*, ii, pp. 27, 92 ff.

interest, but the Italian reproduction of a German date in Table LX. 8 is worth noting.

Table LXIII should be used with great caution, both the authorities on which it is based, Rottiers and Belabre, being untrustworthy. But I could not bring myself to exclude the evidence from this outpost of Western culture. Italian influence was evidently strong there. As the knights left the island in 1522, it is improbable that any of their inscriptions were restored; the more is the pity that good facsimiles are wanting.

Finally, a few notes on certain peculiarities of notation may not be out of place.

The change of direction in writing numerals, from the old one of right to left to the modern one of left to right, is illustrated by a few cases. One is given by Hale, *Domesday of St. Paul's* (p. xiv): 'Tabula Registri de Visitatione Maneriorum per Robertum Decanum, anno domini m. cc. xxii.' Here the folios are numbered with Arabic numerals, written originally from right to left, the numbers being afterwards struck out, and a fresh series written in nearly the same character, but from left to right. Uncertainty as to whether they are contemporary with the date given has prevented their inclusion in the Tables.

The mixture of Roman and Arabic numerals is very common. In addition to instances which will be found in the Tables, I give the following from MSS.:

B.M. Royal 10 E. iii f. 294: caution dated a° dñī m° cccc<sup>mo</sup> 6<sup>to</sup>. English.

B.M. Royal 12 C. xv f. 264: owner's signature, anno dñī m° 400. English.

B.M. Sloane 2478 f. 35 b.: mill° cc° 66°; cf. ff. 15, 15 b.

B.M. Harl. 2316. m° cc° 58, m° ccc° 43, etc. English mid. XIV.

Mabillon (*de re Dipl.* t. xv, p. 373, ed. 1681) gives the following example of chapter-numbering ('ex cod. Cavensi in cujus initio monachus Benedictinus crucem ferens pingitur'): 1. 2. 3. 4. 5. 6. 7. 8. 9. x. xi. x2. x3. x4. xxx. xxxi. 302. 303. xxxx. 401. 405.

i. 5. iiii. = 1504. See Jakobs u. Ukert, *Beiträge zur älteren Litteratur oder Merkwürdigkeiten der herz. öff. Bibl. zu Gotha* (Leipzig 1835), ii. 1. 64 note. m. ccc. 35 = 1335. *Id.* i. 2. 208.

i.4.LXIII, i.4.LXX, i.5.6 (= 1506): see Wattenbach, *Lat. Paläogr.*<sup>4</sup>, p. 104. For the omission of o in the tens place see Table XXIII. 2.

m. cccc. 8 II, = 1482: Wattenbach<sup>4</sup>, p. 104.

c25 = 125, cc2 = 202 (hand-pagination of a book of 1470): Smith & Karpinski, p. 142.

145vj for 1456: Cappelli, *Dizionario*, p. 423 (Cremona).

An unusually interesting example is the wood-cut representing the seal of John, priest of St. Moritz in Augsburg, with date A° M° cccc 7 (the 7 being of the *lambda* form). Libri, *Mon. ined.*, pl. lii; Schreiber, *Manuel*, 2039; *Catal.* 42. The original block of this is in the Hof-Bibliothek, Munich. Prints of these were used by John as an ex-libris, e.g. in books of *circa* 1472 and 1475. The date thus appears to be meant for 1470; the years of the decade might be added by hand. It cannot mean 1407. On this point, Mr. Scholderer writes: 'The little paragraph in Latin written by John the priest first occurs in what I suppose is the earliest edition, printed at Augsburg by J. Bämle, 18 December, 1472, of Jo. Cassianus, *Die 24 goldenen Harfen*, translated by Jo. Nider. In this edition, however, no mention is made of the writer; the German paragraph setting out how "der wirdig herr Meister hanns pfarrer zu sant Mauricien zu Augspurg" was responsible for it seems first to occur in an edition printed at Augsburg by A. Sorg, 21 June, 1484. It was afterwards copied in Bämle's 1488 and M. Schott's (Strassburg) 1493 editions.'

The mixture of words with Arabic numerals is also not unknown; but a peculiar instance is 3<sup>s</sup> for 'tres': 'habuit 3<sup>s</sup> filios' in a MS. (Brit. Mus. Cotton. Nero A ix. f. 64) towards the end of the thirteenth century (soon after 1278). The same MS. shows frequently a mixture of Arabic and Roman numerals.

The example from Mabillon shows the notation 302 for 32. Of the same kind is the date anno dni. 1000. 300. 80. 4° in a MS. in the Plimpton Collection (D. E. Smith, *Rara Arithmetica*, p. 444). The forms 610 (for 16) and the like (see note on Table IV. 1) are curiously systematic, evidently assuming that the numbers would go up to 100 at least. Less logical, but easily to be understood, are the following:

15011 on a majolica tile in the Civic Museum, Turin. Wallis, *Italian Ceramic Art: the majolica pavement tiles of the fifteenth century*, fig. 66.

15013. Date in colophon of *Confessionale* of S. Antonino, printed at Paris. Communicated by Prof. Pernice from a copy at Greifswald (No. 910). See Wattenbach<sup>4</sup>, p. 105.

As a modern parallel to these it may be worth mentioning that in a letter from a resident in Rome I read that 'the Vittorio Emanuele Monument, like everything else, has got to be ready for the celebrations in 19011'.



## LIST OF SOME ERRONEOUS OR DOUBTFUL DATES IN ARABIC NUMERALS

800. Sarcophagus of Pagavus Petrasanta at Milan. Obviously of late origin. Illustrated in F. Burger, *Gesch. des florent. Grabmals* (Strassburg, 1904), p. 34.

1007. On a gravestone at Katharein near Troppau. Universally rejected. *M. C. C.* xi (1866), p. xlvii; *Anzeiger* (1876), p. 34.

1084. Castle Acre Priory. See under 1480.

1133. The Helmdon mantelpiece, a stock subject for discussion in the eighteenth century (*Philosophical Transactions*, 1731, i. fig. 55, at p. 190), supposed by many to bear the date 1133, cannot from its style have been earlier than the late fifteenth century. There was a somewhat similar oak chimney-piece at Widgel Hall, Herts., perhaps of 1516 (*op. cit.* 1735, p. 119), though the 16 has been explained as 1. G.

1136. MS. See E. de Terreros y Pando, *Paleografía Española* (1758), p. 102, pl. 12 (530 of the Arab era). This is the date of the composition of the original work; the MS., so far as one can judge from an indifferent facsimile, appears to be of the thirteenth or fourteenth century.

1190. *Anzeiger* (1876), 34; Denzinger, p. 165 f.

1198. *Anzeiger* (1876), 34; Denzinger, p. 165 f.

1206. On blade of a sword in the Germanisches Museum, Nürnberg. *Anzeiger* (1881), 229. Not a date.

1217. MS. See E. de Terreros y Pando, *op. cit.*, p. 97, pl. 2. The script is certainly later.

1235. (Fig. 3, and for the whole design, *Archaeologia*, lxii, pl. XIX,

1235

Fig. 3.

no. 1.) Seal of Gottfried von Hohenlohe. See *Anzeiger*, 1861, p. 48; 1866, p. 265; 1871, p. 261 f.; Albrecht, *Die Hohenlohe'schen Siegel des Mittelalters*, no. 6; Fürst Hohenlohe-Waldenburg, *Sphragistisches Album*, Beilage A zu Hohenlohe; G. A. Seyler, *Abriss der Sphragistik*, p. 28. No original impression is known; but there are or were two examples of the matrix in the Fürstlich Hohenlohe-Neuensteinsches Kunst- und Raritäten-Cabinet in Kirchberg a. d. J., one in copper, the other in silver; both 0.5 cm. thick and smooth at the back. Both matrices are the same, but one is better engraved than the other. One of these matrices seems to be men-

tioned as early as 1644. No other seals of the thirteenth century dated in this fashion are known. The work is extremely good. It has been suggested, in explanation of the early occurrence of these numerals, that Gottfried was frequently in Italy. That is no explanation, since the numerals would be as surprising in Italy as in Germany. The Trinity College, Cambridge, MS. (Table III. 1), supposing it to be rightly dated, shows that the forms of 2 and 3 are just possible in the first half of the thirteenth century. But I have found no other instance of this form of 2 so early. If the last figure is a 5 (and it can hardly be, as Seyler reads it, a 3 reversed, seeing that the engraver had just made one the right way), I can find no parallel to it *until the sixteenth century*, when it is furnished by the Brensbach date of 1526 (Table XXVII. 12). The possibility of this seal being a forgery of the sixteenth century must therefore not be overlooked. It is strange that two matrices are known, but no ancient impressions.

1245. MS. Bibl. Strozzi, mentioned in nearly all the old treatises on the subject without verification, but doubted by modern authorities. It must be admitted that there is nothing improbable in such a date.

1265. On a bell at North Wootton near Wells (W. E. A. Axon, *Proc. Manchester Lit. and Phil. Soc.* 1876, pp. 173 ff.); is for 1625, as, Mr. H. B. Walters assures me, is proved by the work.

1298. On an armorial slab (S'. Ser Lapi Bonamichi et filiorum eius de Ghiaceto) in the Berlin Museum. The slab is much later in date. (Information from Mr. A. F. Gow and Dr. K. Regling.)

1299. This, which appears to be a sculptor's mark on a gravestone of the Count of Katzenellenbogen, in the Schlossgarten at Biberich, seems to be very doubtful. [The only illustration I have seen is in Hefner-Altenneck, *Trachten*, i. Taf. 27.]

1302. *Anzeiger* (1876), 34; Denzinger, pp. 165 f.

1308. Tomb of Bishop Maggi in the Rotonda, Brescia. Not contemporary.

1319. Relief of God the Father in Mus. of Hist. Verein von Unterfranken, Würzburg. Denzinger, pp. 166 f.

1320. Seal of Trostberg (see figure 4, and for the whole design,

1 3 2 0

Fig. 4.

*Archaeologia*, lxii, pl. XIX, no. 8). The wax impression from the Germanisches Nationalmuseum, Nürnberg, shows clearly that we have to do with a sixteenth-century seal. With the looped forms of the numerals compare those in Table XXVII. 4, 15. The seal is mentioned in *Anzeiger* (1866), p. 265; by G. A. Seyler, *Abriss der Sphragistik* (1884), p. 28, and elsewhere, without suspicion.

1322. On a piece of artillery (which was in existence at Mantua down to 1849). Illustrated and accepted as genuine by Rocchi, *L'Arte*, ii (1899), p. 348.

1327 (Fig. 5). On the church at Weissenburg im Nordgau (Mittel-franken). The contemporaneity of this is with justice doubted by Mauch, *Anzeiger* (1861), p. 81. Cp. the 1439 of Table XXIII. 4.

1331. Seal of Heidingsfeld-am-Main, *Anzeiger* (1859), 249; *Archaeologia*, lxii, p. 180; here Table XXX. 1. Mr. G. H. Lockner confirms my suspicion, expressed in the latter place; the date is a subsequent addition. See Heffner, Würzburgisch-Fränkische Siegel, in *Arch. des Histor. Vereins v. Unterfranken u. Aschaffenburg*, xxi, pp. 168-169.

1371 (Fig. 6). Schlosskirche, Pforzheim. See *Anzeiger* (1861), p. 83. The evidence as to this is highly unsatisfactory. Herr E. Wagner of

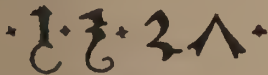


Fig. 5.

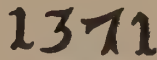


Fig. 6.

Karlsruhe, who kindly made inquiries for me, elicited the fact that an inscription in memory of Luitgard Göldenerin with this date is now painted on the wall of the church; but it is uncertain whether it was always painted on the wall, or whether when the church was restored in 1880 the plaster was laid over the possibly still existing slab. The inscription is given by Gehres, *Kleine Chronik von Pforzheim* (Carlsruhe, 1811), p. 30. It is clear that the forms as they now stand are useless; but even those given in publications earlier than 1880 seem to me very doubtful for the date.

1377. Engraved on back of a fifteenth-cent. matrix of seal of Church of St. James below Cripplegate. Formerly in Dimsdale Collection (Sotheby's Catal., June 6, 1913, lot. 26).

1381. On a reliquary in the shape of a head of St. Mark, in the Abbey of S. Salvatore, Mte. Amiata. Restored. Photograph from W. A.

1384. German wood-cut (Schreiber 1943). Refers to date of the miracle represented.

1393. Monument of von Reinstein at Würzburg. Salver, p. 247.

1393. The figures 1393 on a brick illustrated by Sir Rider Haggard in *A Farmer's Year* (1906), p. 323, and since presented by him to the British Museum, appear from their style to date from the seventeenth century at the earliest.

1396. Inscription of Antonio di Giuliano Bianchini et suorum, in Opera del Duomo, Florence. Not contemporary.

1398. This supposed date at Constanx is not contemporary, the context showing that the inscription cannot be earlier than 1462. See J. Marmor in *Anzeiger* (1861), pp. 268 f.

1407. Monument of Gottfried v. Wirsberg. Salver, p. 453.

1408. 'Sigillum Universorum Civium in Marchekk.' Melly, *Beiträge*, pl. i, and p. 37. Melly says 'the work shows that the date 1408 cannot refer to the making of the seal, but to a renewal of the grant of arms, or else, more probably, it arose from an engraver's mistake for 1480'.

1410. Seal of Gars. Written 14x (with the old form of 4). *M.C.C.* xix, p. 88. Not contemporary.

1410. A curious puzzle is presented by this date (Fig. 7), which was published in the *Antiquary*, XXXVIII, p. 258, as from the brass of John de Campden in St. Cross, Winchester. No such date is to be seen on that brass, and all inquiry has failed to elicit an explanation. Either the facsimile given is a clever invention, for the forms are most plausible, or the person who sent it to the *Antiquary* has confused his notes as to the provenance of the date. It ought to be inquired into, as, if genuine, it (with the Fountains seal,



Fig. 7. Reproduced by permission of Mr. Elliot Stock.

Table XXII. 4) is the earliest English instance of the kind, saving the Wells numerals.

1418. Wood-cut of the Madonna at Brussels (Schreiber 1160). Not earlier than 1460.

1423. Buxheim engraving of St. Christopher (Rylands Library); probably not before 1440.

1437. Wood-cut (Schreiber 1684): refers to the grant of the indulgence.

1439 (see *Archaeologia*, lxii, pl. XIX, no. 2): Seal of Otto von Henneberg, Germ. Nationalmus., Nürnberg. This is the identification given in *Anzeiger* (1859), p. 250, but the date is queried. The last digit looks like a 4. Further, Otto V, the only one who can be in question, was only two years old in 1439. He died in 1496. The date is almost certainly 1484. The inscription is 'S. oct. von Gots gnade gve und her v. henbg'.

1440. Seal of Grätz of 1509; 1440 is the year of the grant of arms (Melly, p. 83).

1440, 1448, on two wood-blocks, refer to composition of the writings they reproduce. (Dodgson, Catal. of Early German and Flemish Woodcuts, p. 8 note.)

144. Wood-cut (Schreiber 1637): refers to the canonization of S. Niccolò of Tolentino.

1449. Seal of Markt Veldkirchen. *M.C.C.*, p. cxxxiv. This has the modern 4, and looks altogether more modern than the date.

1455. Medal of Francesco Sforza (Armand, *Médailleurs Italiens*, ii. 26. 1). Not contemporary.

1470. Huntly Tomb in Elgin Cathedral. See Table XVII. 4.

1479. Schaumünze of Maximilian and Mary of Burgundy bearing the date 1479, and the ages (19, 20) of the pair; this is a later reproduction, based on the contemporary medal by Candida.

1480. Castle Acre Priory. The most ludicrous things have been written (J. H. Bloom, *Castle and Priory at Castle Acre*, p. 25) about a cruciform arrangement of figures here, which might conceivably be meant for 1480 but is certainly not so early.

1481. Medal of Christian of Denmark (Armand, iii. 166, C). Restored.

1485. Occurs on a brass (of John Pulter) in a slab on an altar-tomb (of



earlier date) in the north chapel of Hitchin parish church. The forms (modern 4 and 5) show that the numerals are later than the alleged date [Rubbing communicated by Mr. Murray Kendall].

1485. Medal of Aimar de Prie [sée Table LIII. 1].

1488. Medal of Francesco Servandi (Armand, iii. 157, *B*). False.

1488. Medal of Francesco Accolti (Armand, ii. 51, 16). False. (See *Rev. Num.*, 1895, p. 460). The form  $\omega$  for 8 comes in towards the end of the sixteenth century.

1488. On a seal of the city of Baden (Lower Austria) commemorating the siege by the Turks in 1529. The date is meant for that of the Wappenbrief, but should be 1480. It has the upright 4. A similar seal with the right date, 1480, was engraved in 1566. *M.C.C.* ix, p. v.

1489. On a bell at Eglingham, near Alnwick, mentioned by W. E. A. Axon, *Proc. Manchester Lit. and Phil. Soc.* 1876, pp. 173 ff. This is in Roman numerals.

1489. This date, given by Haines from a brass at Fressingfield, Suffolk, is in Roman numerals.

1490. On the brass of Wm. Fordmell, Vicar of Borden (Belcher, *Kentish Brasses* i, p. 12); cannot be contemporary.

1498. Medal of Ser Ceccone de' Baroni (Armand, ii. 74. 4, and iii. 170, *A*). False. *Burlington Magazine*, Oct. 1909, p. 31.

1498. Medal of Gioacchino della Torre (Armand, ii. 71. 10). False. *Burlington Magazine*, Dec. 1912, p. 132.

1500, 1503. Medals of Georges d'Amboise (Armand, ii. 142. 14, 15). Restored.

1508. The signs which have been so read on a bell at Rayleigh, Essex (Deedes and Walters, *Church Bells of Essex*, p. 40), are probably not numerals at all; the third sign looks like u or n. The reading Ihus (for *Jesus*) has been suggested, but is unlikely. Ihns for *Johannes* seems to have even less in its favour.

1517. Medal of Ladislav VI of Hungary (Armand, iii. 209, *A*). Restored.

1519. On two pieces of Gubbio ware (Fortnum, p. 29). Suspiciously modern.

1521. Medal of Pietro Vettori (Armand, ii. 97. 17). False.

NOTE.—The tabular arrangement of this volume will, it is hoped, partly compensate for the absence of an index. An attempt to construct one showed that nothing short of repeating the whole of the contents in index-form would be really useful.



# TABLES

I. MSS.: EARLIEST FORMS AND  
BOETHIAN APICES.

1	I	7	3	4	U	6	7	8	9		976
2	T	W	M	P	U	O	V	3	S	W <sup>(10)</sup>	X
3	I	7	3	F	7	4	Λ	8	2		1077
4	I	7	Σ	μ	Q	6	Λ	8	9		} XI
5	I	7	Σ	μ	Q	6	Λ	8	9	⊙	
6	I	7	H	B	U	6	Λ	8	9	⊙	} XI
7	I	7	Σ	μ	Q	6	Λ	8	9		
8	I	7	X	μ	Q	6	Λ	8	9		XI or XII
9	I	7	N	B	U	6	Λ	8	9		} beg. XII
10	I	7	Σ	μ	Q	6	Λ	8	9		
11	I	7	H	B	U	6	Λ	8	9		XII?
12	I	7	H	B	U	6	Λ	8	9		XII
13	I	7	H	B	U	6	Λ	8	9	X <sup>(10)</sup>	XII <sup>2</sup>
14	I	7	H	B	U	6	Λ	8	9		c. 1200
15	I	7	H	B	U	6	Λ	8	9		c. 1200
16	I	7	W	B	U	6	Λ	8	9		?
17		7	Σ	μ	Q	6	Λ	8	9		?
18	I	7	W <sub>GN</sub>	μ <sub>B</sub>	Q	6	Λ	8	9		?
19	I	7	3	μ	Q	6	Λ	8	9	⊙	} XV
20	I	7	X	μ	Q	6	Λ	8	9		
21	I	7	U	μ	Q	6	Λ	8	9	O	XVI early



## DESCRIPTION OF THE TABLES

TABLE I. MSS.: EARLIEST FORMS AND BOETHIAN APICES.

1. 976. Escorial d I 2. Codex Vigilanus, written in the year 976 in the monastery of Albelda near Logroño. See P. Ewald, *Neues Archiv der Gesellsch. f. ält. deutsche Geschichtskunde*, viii (1883), p. 357. Cp. Smith and Karpinski, p. 138. The forms are described as the Indian figures, quibus designant unumquemque gradum cuiuslibet gradus. Quarum hec sunt form(e): 987654321. Ewald connects the form for 5 with the Roman V. Since he does not say that the year 976 is that of the Spanish era, we must assume that it is of the usual Christian era.
2. X c. Zürich, Universitätsbibl. (St. Gall MS.). See Pertz, *Archiv*, vii (1839), p. 364. Cp. G. Friedlein, *Gerbert, die Geometrie des Boethius und die indischen Ziffern* (Erlangen, 1861), pl. vi. 13. From fol. 50<sup>r</sup> of Angilberti carmen de Karolo M. Pertz describes these as the earliest Arabic numerals known to him.
3. 1077. Vat. 3101. A. Berthelot, *Mélanges de l'École franç. à Rome*, v. (1885), p. 193.
- 4, 5. XI c. Erlangen (ex Altdorf), 288. See Friedlein's *Boethius* (1867), p. 397 (forms used in the text of the MS.); also Friedlein, *Gerbert*, etc., pl. vi. 1, 2; Woepcke, *Mém. sur la propagation des chiffres indiens* (Paris, 1863), p. 49 (after Mannert); H. Hankel, *Zur Gesch. d. Math.* (1874), p. 325; Cantor, *Math. Beiträge zum Kulturleben der Völker* (1863), p. 200. Closely allied to these forms are those in an eleventh-cent. MS. (A. D. 1049) at Trier (no. 1093); probably written there. [Communicated by Mr. H. F. Stewart].
- 6, 7. XI c. Chartres. See Chasles, 'Aperçu hist. sur l'origine et le développement des méthodes en Géométrie' (*Mém. de l'Acad. roy. de Bruxelles*, xi, 1837, p. 467). See also Friedlein, *Gerbert*, etc., pl. vi. 3, 4.
8. XI c. - XII c. Reg. Vat. 1661. Liber Abaci. A. Berthelot, *Mélanges de l'École franç. à Rome* (1885), p. 193. Dated XI c. by Pertz, XII c. by Berthelot.
- 9, 10. XII c. (beginning). Paris, anc. fonds latin no. 7193 (ex Colb. 4313). De abaco. Natalis de Wailly, ii, pl. vii a.
11. XII c. (?) B.M., Arund. 343 (original burnt in 1865; the date cannot therefore be verified). From T. Wright, *Essays on Archaeological Subjects*, ii, p. 65.
12. XII c. Vat. 3123. A. Berthelot, *Mélanges de l'École franç. à Rome* (1885), p. 193.
13. XII c. (2nd half). Bibl. Alessandrina (Rome), no. 171, fol. 1. The apices of Boethius used without abacus, and with position values. E. Narducci, *Mem. Accad. Lincei*, Cl. sci. fis. etc. (1877), pp. 503 f.
14. c. 1200. Louvain. See Lethaby, *Proc. Soc. Ant.* 1906 (xxi), p. 201.
15. c. 1200. Paris, MS. Fonds St. Victor 533. Regula Abaci. See Chasles in *Comptes Rend. de l'Acad. des Sciences*, xvi (1843), p. 238.
- 16, 17. Paris, 7377 c and 7185. Boethius. These series have been published by Cantor in *Zeitschr. f. Math. u. Physik*, iii, pl. iv, and in his *Math. Beiträge zum Kulturleben der Völker* (1863), p. 206 (fig. 41). The variation between the facsimiles throws doubt on their accuracy. Cp. also Friedlein, *Gerbert*, etc., pl. vi. 5 and 6. Date and provenance are not stated.
18. Date not ascertained. From a MS. belonging to Dr. Mead. See *Philosophical Transactions*, 1735, plate ii (at p. 122).
- 19, 20. XV c. Vat. 4539: table following letter to Constantine on the abacus; and forms from text of Liber Abaci. A. Berthelot, *Mélanges de l'École franç. à Rome*, v (1885), p. 193.
21. Temp. Leonis X. B.M., Lansd. 842 B, fol. 57 b. Italian. De ratione abaci.

## II. MSS.: XII-XIII CENT.

1	3	2	3	2	4	6	Λ	8	9	θ	XII early
2	1	pp	rp	2	444	66	77	8	9		II43
3	1	ppp	rrr	222	44	6	77	8	9	o	XII-XIII
4	1	72	33	2	4	6	8	8	99	o	c. 1200
5	1	p	rr	⌊	88	44	v	77	p	o	XII end
6	1	p	4	5	B	ε	v	4	9	o	XII <sup>2</sup>
	1	p	4	5	B	4	v	4	9	o	
	1	p	3	5	B	4	v	4	9	o	

## III. MSS.: XIII CENT.

1	1	27	3	73	4	6	Λ7	88	9		XIII <sup>1</sup>
2	1	7	3	8	4	6	Λ	8	9		c. 1230-50
3	1	77	3	22	4	6	Λ	8	9		XIII
4	11	77		2	4	6		8			1246
5	1	7	3	8	4	6	Λ	8	9	θ	c. 1250?
6	11	77	3	2	4	6	Λ	8	9	θ	XIII <sup>2</sup>
7	1	7	3	8	4	6	Λ	8	9		XIII <sup>2</sup>
8	1	7	3	2	4	6	Λ	8	9	θ	aft. 1264
9	1	777	3	2	4	6	Λ	8	29	θ	c. 1280
10	1	27 (unl.)	3	2	4	66	ΛΛ	88	99		XIII late
11	1	117	33	2	44	6	Λ	8	9	o o	XIII late
12	1	11	3	22	444	66	Λ	8	9	θ	XIII late
13	11	22	3	222	4	66	Λ	8	9	o	XIII end
14	1	2	3	2	4	6	Λ	8	99	o	

TABLE II. MSS.: XII-XIII CENT.

1. XII c. (early). Vat. 1890, f. 140; fragment of Conradi Urspergensis chronicon, probably written in the neighbourhood of Salzburg. Pertz, *Archiv d. Gesellsch. f. alt. deutsche Geschichtskunde*, v. (1824), p. 160 and pl. i. 4. Wattenbach, *Anleitung zur latein. Paläographie*<sup>4</sup>, p. 102. 1. Prou, *Manuel*, p. 156. 2. 1143. Vienna, Bibl. Palat. Computus. T. Sickel, *Mon. Graph.*, Fasc. viii, Tab. 16; *Wiener Sitzungsber.* xxxviii. 171. Cp. Nagl in *Zeitschr. f. Math.*, xxxiv (1889), hist.-lit. Abteilung, pp. 129 f. 3. End of XII c.—beg. of XIII c. Munich, cod. lat. 14733 (cod. Emmeran. G. 117). Böhmer, *Fontes rer. Germ.* iii, p. lxxv; Pertz, *Mon. Germ.* SS. xvii, p. 578 and plate at p. 184; Wattenbach<sup>4</sup>, p. 102. Written by Hugo of Ratisbon, who appears as a witness 1207-1216. 4. c. 1200. Heidelberg (Salem), ix. 23. Cantor, *Zeitschr. f. Math. u. Physik*, x. 1; Wattenbach<sup>4</sup>, p. 102. 5. XII c. (end). W. Schum, *Exempla Codicum Amplonianorum Erfurtensium* (Berlin, 1882), no. xiii, p. 7. From the Astronomy of Albumazar. Probably German. 6. XII c. (second half). Berlin, cod. lat. fol. 307, ff. 6, 9, 10, 28. Astronomical tables. French. See Bethmann in Pertz, *Archiv*, viii. 832; Wattenbach<sup>4</sup>, p. 103; V. Rose, *Verzeichnis d. lat. Hdschr. der kgl. Bibl. zu Berlin*, ii, p. 1177, no. 956. The figure which is given by the earlier authorities as 2 is interpreted by Rose as 4, and vice versa. So far as the 2 is concerned, the earlier interpretation is confirmed by the preceding MS. in this table and by Arabic analogy. Dr. Regling has very kindly examined the MS. for me, but this point was not in question at the time.

TABLE III. MSS.: XIII CENT.

1. XIII c. (1st half). Trinity Coll., Camb. (M. R. James, *Catal.* ii, no. 940, p. 355). The numerals are given under the words *Igin*, *Andras*, *Ormis*, etc., with the Roman equivalents written after each. [From drawing by Mr. Z. N. Brooke.] 2. c. 1230-50. B.M., Eg. 2261, f. 225 b. Algorism. English. 3. XIII c. B.M., Add. 25031. English. 4. 1246. B.M., Royal 8 A. viii, f. 105. Note of purchase of the book. English. 5. XIII c. (about middle). B.M., Royal 3 A. v, f. 67 b. English. Dated by some to late XIII or early XIV. 6. XIII c. (2nd half). B.M., Arund. 292, f. 107 b. English. The numerals are drawn laboriously, as if they were unfamiliar. 7. XIII c. (2nd half). B.M., Arund. 332, f. 68. Joh. de Sacrobosco. English (Durham). 8. XIII c. (after 1264). B.M., Add. 27589, f. 28. Algorism. English. Smith and Karpinski (p. 143) say that this MS. contains the date 1360, to which year they (apparently in error) accordingly assign it. The hand is pure XIII cent. 9. c. 1280. S. C. Cockerell Collection, English Bible (probably York). Cp. *Proc. Soc. Ant.* xxi (1906), p. 201 (where the forms have been somewhat schematized). 10. XIII c. (late). B.M., Royal 12 E. xxv, ff. 32-59. This scribe uses Roman numerals for all above 9, also sometimes ix. The early form of 2 occurs only once (f. 33). Probably English. 11. XIII c. (late). B.M., Harl. 2385, ff. 26-31 b. Probably English. 12. XIII c. (late). B.M., Royal 12 E. xxiii, f. 2. English. 13, 14. XIII c. (end). B.M., Royal 12 C ix. Joh. de Sacrobosco, Computus. Probably English. The diagrams (14) are in a different hand, perhaps that of a more skilled mathematician than the copyist of the text.



IV. MSS.: XIII CENT. (*continued*).

1	II			2	4	5				0	XIII beg.
2	1	7	7	2	4	6	11	8	9	0	XIII early
3	1	777	3	2	4	5	11	8	9	0	bef. 1271
4	1	22	333	22	444	66	11	88	99	0	XIII end
5	1	7	3	2	4	6	11	8	9	0	} XIII end
6	1	222	3	22		66				0	
7	11	7	3	22	4	66	11	88	9		1256
8	1	7	33	22	4	66	77	88	99	0	XIII
9	11	222	33	2	44	6	11	8	9		} 1272
10	1	77	3	2	4	6	11	8	9	0	
11	1	77	3	2	4	6	11	8	9	0	c. 1260-70
12	11	77	33	22	44	66	11	88	99	00	XIII

## V. MSS.: XIII-XIV CENT.

I	11	77	3333	2	4	666	777	8	9	0	} XIII late
	11	27	33	22	4	6	17	88	9	0	
	1	7	3	2	4	6	7	8	9	0	
	1	222	3	2	4	6	71	8	9	0	
2	1	77	3	2	4	6	11	8	9	0	XIV beg.
3	1	7	3	2	4	6	11	8	9	0	XIII-XIV
4	1	7	3	2	4	6	11	8	9	0	c. 1300
5	11	77	33	222	444	66	11	88	99	00	c. 1300
6	1	7	3	2	4	6	11	8	9	0	XIII-XIV
7	11	777	333	222	444	6	11	888	999	000	c. 1300
8	1	22	33	2		6		8	99		XIII-XIV
9	1	2	3	2	4	6	11	8	9	0	XIII-XIV
10	1	7	3	2	4	6	11	8	9	0	XIII-XIV

TABLE IV. MSS.: XIII CENT. (*continued*).

1. XIII c. (beg.). B.M., Royal 8 B. xix. English or French. Contemporary quire-numbering. The first 13 quires (of 8 leaves each) are numbered i, ii, . . . xiii' on the last page of each quire; then come 410=14 (f. 112 b), 510 (f. 120 b), 610 (f. 128 b). 2. XIII c. (early). B.M., Royal 15 B. ix, f. 77 b. Algorism. English or French. Note the Roman V. By some authorities dated as early as XII cent. 3. XIII c., before 1271. Paris, anc. fonds latin, 7198; kalendar on f. 8. French. N. de Wailly, *Él. de Pal.* pl. vii. Cp. Lethaby, *Proc. Soc. Ant.* 1906 (xxi), p. 201. 4. XIII c. (end). B.M., Harl. 3647, ff. 2 foll. (compotus manualis), 17 (algorismus). French. 5, 6. XIII c. (about end). B.M., Harl. 4350, ff. 16, 6 b, etc. French. 7. 1256. Paris, lat. 16334 (Analysis and index of works of St. Augustine). Prou, *Manuel*, pl. xviii. No instance of 0 occurs in the facsimile. 8. XIII c. Siena (Bibl. Com.). *Anzeiger für Kunde d. Deutschen Vorzeit*, xviii (1871), p. 261; W. Wattenbach, *Anleitung zur lateinischen Paläographie*<sup>4</sup>, p. 102. 5; Prou, *Manuel*, p. 156. 9, 10. 1272. B.M., Harl. 531, ff. 1, 7, 30, 32 (dates and numerals in text of Sacrobosco). German. 11. c. 1260-1270. B.M., Royal 12 E. iv. Provenance uncertain. Evidently an exercise in ornamental figuring. A peculiar form of 2 occurs on f. 4 b. 12. XIII c. Libri Catalogue (Sotheby's, 1859), p. 145, no. 665, pl. xxiv and xxix. Mathematici veteres. Not of 1170 as stated. Probably English. Mixture of Arabic and Latin numerals. Wattenbach<sup>4</sup>, p. 102.

TABLE V. MSS.: XIII-XIV CENT.

1. XIII c. (end). B.M., Royal 7 F. viii, ff. 182-188. Works of Roger Bacon. English, after 1268, probably towards end of XIII c. Astronomical tables. More than one system of numerals used; it would appear that we have tables compiled from various sources. See pp. 11 f. 2. Beginning of XIV c. (temp. Edw. I-II). B.M., Cotton Vesp. A. ii, fol. 2. 'Calend. Rogeri Baconis.' Probably English. Might conceivably have been written in the closing years of the XIII cent., but beginning of XIV is much more probable. 3. Late XIII or early XIV (more probably the former). B.M., Royal 8 C. iv, f. 36 b. Joh. de Sacrobosco. Probably English. 4. c. 1300. B.M., Add. 35179. English. 5. c. 1300. B.M., Royal 12 F. xv, f. 143. Probably English. Evidently an exercise in writing the numerals. 6. Early XIV c. (possibly late XIII c.). B.M., Cotton Vit. A. 1, f. 25 b. Carmen de Algorismo. English. 7. Late XIII or beg. XIV c. B.M., Royal 10 B. vii. Fishacre. English. See ff. 6 b foll., 226 b foll., 285, 327, 380. Shows the transition from the old to the modern 2. 8. End of XIII or beg. of XIV c. B.M., Harl. 505, ff. 5 b-14. English. 9. End of XIII or beg. of XIV c. B.M., Harl. 3735, f. 51. Algorism. Probably French. 10. XIII-XIV c. B.M., Add. 30380. Joh. de Sacrobosco. German.

## VI. MSS.: XIV CENT. ENGLISH.

1	1	77	33	22	4	5	11	88	22	0	c. 1320-30
2	1	7	3	2	9	5		88	9		XIV earl
3	1	77 <sub>4m</sub>	3	2	9	5	1	8	99	0	XIV
4			33	22	4	5	1			0	XIV earl
5	1		33	2							1334
6	1	22	33	22	44	5	1	8	99	00	XIV earl
7	1	77	3	2	9	5	1			0	c. 1330-40
8	1	2	3	2	4	5	1	8	9	0	XIV
9	1	7	333	2	4	5		8		00	mid. XIV
10	1	2	3	2	4	5	1	8	9	0	XIV
11	11	2	33	22	44	5	1	8	9	00	XIV
12	11	2	3	2	9	5	1	8	9	0	c. 1350
13	1	2	3	2	4	5	1	8	9	00	XIV
14	1	2	3	2	44	5	11	8	9	0	aft. 1367
15	1	2	33	2	4	5	1	8	9	00	1380
16	11	2	33	4	4	56	11	88	999	00	1381
17	1	2	3	2	4	5	1	8	79	00	XIV late
18	11	5	3	2	2	5	1	8	3	0	XIV <sup>1</sup>



TABLE VI. MSS.: XIV CENT. ENGLISH.

1. c. 1320-1330. B.M., Royal 122 E. xxi, ff. 74 foll. English. 2. XIV c. (early). B.M., Sloane 2478, ff. 15, 15 b, 27, 35 b. English. 3. XIV c. B.M., Royal 13 B. vi. Pagination. Later form of 2 occurs on f. 302. English (Lincoln). 4. XIV c. (early). B.M., Royal 12 E. 1, ff. 159-165 b. English. 5. 1334. B.M., Royal 2 C. v. Note (English) of the lending of the volume (Nich. de Gorram, Postille in Psalterium) to Mag. Th. Duraunt. 6. XIV c. (early). B.M., Harl. 13, ff. 31, 75. Astronomical tables. English. 7. c. 1330-1340. B.M., Harl. 7322, ff. 152 foll. English. 8. XIV c. B.M., Harl. 3353, f. 76 b. Algorism. English. 9. XIV c. (mid). B.M., Harl. 2316, ff. 2 b-11 b. English. 10. XIV c. B.M., Cotton Cleop. B. vi, f. 237. Sacrobosco. Probably English. 11. XIV c. B.M., Royal 7 D. xxi, f. 174 b. Algorism. English. 12. c. 1350, probably. B.M., Royal 12 F. xvii. English. 13, 14. Late XIV or early XV. B.M., Cotton Vesp. E. vii, f. 5 (Diameter terrae); f. 9, Kalendar by Thomas Somur from nativity of Richard II; therefore perhaps soon after 1367, but may be early XV. 15. 1380. B.M., Royal 2 B. viii, ff. 1, 2 b. Psalter, with Kalendar by John Somour, composed 1380. English. 16. 1381. B.M., Burn. 310. Gesta Britonum of Nennius, written at Finchale by a Breton, Guillermus du Stiphel (see f. 89 b). English. 17. XIV c. (late). B.M., Harl. 80, f. 46 b. English. 18. XIV c. (first half). Cod. Magl. Cl. vii, no. 17, f. 33 b; on a tablet held by figure of 'Arismetica'. Perhaps English. Formerly assigned to XI c. (!). C. Paoli, *Arch. Stor. Ital.* (IV Ser., vol. 7) 1881, pp. 277-280.

VII. MSS.: XIV CENT. (*continued*).

	1	2	3	4	5	6	7	8	9	0	
I {	1	2	3	4	5	6	7	8	9	0	XIV early
	1	2	3	4	5	6	7	8	9	0	
2	1	2	3	4	5	6	7	8	9	0	aft. 1301
3	1	2	3	4	5	6	7	8	9	0	1311
4	1	2	3	4	5	6	7	8	9	0	aft. 1367
5	1	2	3	4	5	6	7	8	9	0	XIV early
6	1	2	3	4	5	6	7	8	9	0	1303
7	1	2	3	4	5	6	7	8	9	0	XIV early
8	1	2	3	4	5	6	7	8	9	0	c. 1350
9	1	2	3	4	5	6	7	8	9	0	XIV end
10	1	2	3	4	5	6	7	8	9	0	XIV early
11	1	2	3	4	5	6	7	8	9	0	c. 1325-30
12	1	2	3	4	5	6	7	8	9	0	1315?-1325
13	1	2	3	4	5	6	7	8	9	0	1327
14	1	2	3	4	5	6	7	8	9	0	XIV
15	1	2	3	4	5	6	7	8	9	0	XIV
16	1	2	3	4	5	6	7	8	9	0	XIV
17	1	2	3	4	5	6	7	8	9	0	1382

TABLE VII. MSS.: XIV CENT. FRENCH, GERMAN, ITALIAN, ETC.

1. XIV c. (early). B.M., Burn. 275, f. 667 (= 336). Illumination (first row). French. Other forms (second row) in the text passim. 2. 1301 (just after). B.M., Royal 12 C. xvii. Algorism. French. 3. 1311. B.M., Sloane 3097, ff. 61-63 and elsewhere. Liber de conservacione vite humane, completed die innocencium 1311 (f. 61). French. 4. XIV c. (late). Paris, anc. fonds latin 7277. N. de Wailly, ii, pl. vii c. M. Omont writes that the MS. is after 1367 and before 1420, and was written in the N. of France or neighbourhood thereof, probably at Tournai. 5. XIV c. (early). B.M., Add. 11284, ff. 2-8. Written at Cambron Abbey in Flanders. Both forms of 2 occur, but the old form more commonly. 6. 1303. Sigmaringen MS. *Anzeiger f. Kunde d. Deutschen Vorzeit*, 1867, p. 239; Wattenbach<sup>4</sup>, p. 102. 7. XIV c. (early, after 1303). B.M., Arund. 268, ff. 41 b-67. Mathematical treatise. German. 8. c. 1350. Salzburg MS. (cod. Iuvaviensis S. Petri V<sup>a</sup> 7, fol. 124 b). Treutlein, *Gesch. uns. Zahlzeichen*, plate, no. 8. 9. XIV c. (end). Berlin, lat. fol. No. 322. Wattenbach<sup>4</sup>, p. 102, no. 7; Prou, *Manuel*, p. 156. 10. XIV c. (early). B.M., Royal 12 C. xviii. Astrology. Provenance uncertain (some northern country). 11. c. 1325-30. Icelandic. Algorismus. Hauksbók, ed. by Finnur Jonsson. p. 417. 12. 1315 or 1325. Endorsement on an English warrant dated Feb. 4, 1325; written (13 x 5) by an Italian. Possibly a mistake for 13 xx 5. *Arch. Journ.* vii, p. 85. 13. 1327. B.M., Arund. 115. Italian. 14, 15. XIV c. B.M., Harl. 3814, ff. 3 b-10. Probably Italian. 16. XIV c. (beg.). Florence, Bibl. Naz., fondo Conventi soppressi, Badia Fior., 2616. C. 1, from which MS. Boncompagni edited the Liber Abaci of Leonardo of Pisa. *Anzeiger f. Kunde d. Deutschen Vorzeit*, 1871, 261, and private communication from Sig. Enrico Costa. 17. 1382. B.M., Add. 37495. Italian. Geoffrey de Vinsauf.

## VIII. MSS.: XV CENT. ENGLISH

1	1	2	3	ρ	γ	Ϸ				θ	XV beg.
2	7	7	3	ρ	γ	Ϸ Ϸ	Λ	8	9	θ	c. 1400-15
3	1	2	3	ρ	γγ	Ϸ	Λ	8	9	θ	c. 1400-15
4	1	2 2	3 3	ρ ρ	γ	Ϸ	Λ	8	9	θ θ	XV early
5	1	2 2	3	ρ	γ	Ϸ	Λ	8	9	θ	XV early
6	1	2	3	ρ	γ	Ϸ	Λ	8	9	θ	XV <sup>1</sup>
7	11	2	3	ρ	γγγ	Ϸ	Λ	8	9	θ	XV <sup>1</sup>
8	1	2	3	ρ	γ	Ϸ	Λ	8	9	θ	1418-31
9	1	2	3	ρ ρ	γγγγ	Ϸ Ϸ	Λ	8	9	θ	XV <sup>1</sup>
10	1	2	3	ρ	γ	Ϸ	Λ	8	9	θ	1431
11	1	2	3	ρ	γγ	Ϸ	Λ Λ	8	9	θ	aft. 1431
12	1	2	3	ρ	γ	Ϸ	Λ	8	9	θ	1429-46
13	1	2	3	ρ	γ	Ϸ	Λ	8	9	θ	1429-46
14	11	2 2	3 3	ρ	γγ	Ϸ	Λ Λ	8	9 9	θ θ	c. 1445
15	1			ρ	γ						1445
16	1			ρ ρ					9		1449
17	1			ρ ρ	γ						1454
18	11	2	3	ρ	γγ	Ϸ Ϸ	Λ	8	9	θ θ θ	c. 1456
19	11	2	3 3	ρ	γ	Ϸ	Λ	8	9	θ θ θ	mid. XV
20	1	2	3	ρ	γ	Ϸ	Λ	8	9	θ	mid. XV
21	1	2	3	ρ	γ	Ϸ	Λ	8	9	θ	mid. XV
22	1	2 2 2	3 3 3	ρ ρ ρ	γ γ	Ϸ	Λ	8	9 9	θ θ	mid. XV



TABLE VIII. MSS. : XV CENT. ENGLISH.

1. XV c. (beg.). B.M., Cotton Vit. C. xiv, ff. 124 foll. English. Ornamental style.
2. XV c. (early, Hen. V at latest). B.M., Royal 12 E. xxii. English. The 1 is exceptional.
3. c. 1410-1415. B.M., Add. 33784, ff. 4-7. English.
4. XV c. (early). B.M., Add. 24194. Chapter-numbers and index. English.
5. XV c. (early). B.M., Harl. 5369, f. 270 b.
6. XV c. (1st half). B.M., Add. 17723. English.
7. XV c. (first half). B.M., Harl. 1288, ff. 34-59. English.
8. 1418-1431. B.M., Eg. 889, f. 52 b. English.
9. XV c. (prob. 1st half). B.M., Sloane 513, f. 58. English.
10. 1431. B.M., Harl. 937. Kalendar. English.
11. After 1431. B.M., Harl. 5396, ff. 207 b foll. English.
- 12, 13. 1429-1446. B.M., Add. 7096, ff. 71 foll. (*Curteys, Bury St. Edmunds Register*) and Add. 14848 (do., index). English.
14. c. 1445. B.M., Harl. 3742, f. 227 b (*Apologetica defensio astronomice veritatis*, by Peter Card. Cambrai), ff. 238 b, 239 (*John of Norfolk in artem progressionis*). English.
15. 1445. B.M., Add. 11814, at end. English.
- 16, 17. 1449, 1454. B.M., Royal 10 B. vii. Cautions. English.
18. c. 1456. B.M., Sloane 4029, ff. 1-183 b. English.
19. XV c. (mid). B.M., Sloane 1616, ff. 125 b, 129 b, and chapter-numberings. Probably English.
20. XV c. (mid). B.M., Royal 6 E. iii. Pagination. English. Cp. Sloane 1616.
21. XV c. (mid). B.M., Arund. 384, ff. 95 foll. English.
22. XV c. (mid). B.M., Cotton Jul. D. vii, f. 45 b. English.

IX. MSS.: XV CENT. ENGLISH (*continued*).

1	0	2	3	4	5	6	7	8	9	0	XV
2	1	2	3	2 2	h h 4	6 6 6	^	8	9	0	XV
3	1	2	3	2	4	6	^	8	9	0	c. 1450-60
4	1111	2, 2	3	2	4	6	^	8	9	0	} XV
	1111	2	3	2 2 2	4 4				9 9		
5	11	2	3	2	4	6	^	8	9	0	c. 1460
6	1			2		6	^				1467
7	1	2	3	2	4	6	^	8	9	0	1482-5
8	1	2	3	2	4	6	^	8	9	0	XV late
9	111	2	3	2 2	4	6		8 8 8			1483-8
10	1			2				8			1488
			PROVENANCE			UNASCERTAINED					
11	1	2	3	2	4	6	^	8	9	0	c. 1427-60
12	1	2	3	2	4	6	^	8	9	0	XV <sup>1</sup>
13	1			2	4		^				1454
14	1		3	4		6				0	1460

TABLE IX. MSS.: XV CENT. ENGLISH, ETC.

1. XV c. B.M., Add. 24059, f. 22 b. Algorithm. English.
2. XV c. B.M., Royal 12 E. 1, f. 8 b. Algorithm, doubtless English.
3. XV c. (c. 1450-60). B.M., Sloane 213, f. 124. English accounts-table.
4. XV c. B.M., Royal 10 B. ix, ff. 61 b, 67, 68, 122, 122 b. Paragraph numbering and dates (1451-1459). English.
5. c. 1460. B.M., Royal 8 D. 1, f. 216. English.
6. 1467. B.M., Royal 6 D. 11. English. Cp. Casley, *Catalogue*, pl. xvi.
7. 1482-1485. B.M., Royal 12 G. 1. Astronomical tables by Lewis Caerleon. English.
8. 1482 (?). Univ. of Edinburgh. Scotch (?) Kalendar, calculated for 1482. J. Leslie, *Philosophy of Arithmetic*, p. 115.
9. 1483, 1485, 1488. B.M., Royal 7 E. v. Cautions, English.
10. 1488. B.M., Royal 14 C. vii, fly-leaf. Cp. Casley, pl. xvi. English cursive.
11. Betw. 1427 and 1460. Paris, anc. fonds latin, no. 7295, f. 86 b. Astronomical MS. (provenance not stated). N. de Wailly, ii, pl. vii d.
12. XV c. (1st half (?)). Kalendar. From T. Wright, *Essays*, ii, p. 71, no. 3. The reference 'B.M. Sloane 2927' there given is wrong, and I have not been able to find the MS.
13. 1454. 'Ex cod. S. Germani. no. 531.' Mabillon, *de Re Dipl.* t. xv, p. 373 (ed. 1681).
14. 1460. 'Ex cod. S. Germani, de imit. Chr. Magistri Iohannis Gerson.' Mabillon, *ibid.*

X. MSS.: XV CENT. (*continued*). GERMAN.

1	1	2	33	44	777	6	8	99	0	c. 1422
2	1	2	3	4	7	6	8	9	0	c. 1420
3	1	2	3	4	7	6	8	9	0	} 1426-30
4	1	2	3	4	7	6	8	9	0	
5	1	2	3	4		6			0	1430
6	1	2	3	4	7	6	8	9		c. 1442
7	1	32	3	4	7	6	8	9	0	XV
8	1	2	3	4	7	6	8	9		XV
9	11	2	3	44	77	66	8	9	0	c. 1458
10	11			44	7	66	885			1468
11	1	22	33	4	7	66	8	9	0	c. 1463-73
12	1		3	4			8		0	1473
13	1			4			8		0	1480
14	1	2	3	4	5	6	7	8	9	XV
15	1		3	4				9		1493
16	1			44				9		1494
17	1			44				9		1494
18	1			4	5			9		1495
19	1	2		4			7	9		1497
20	1			4				9		1498
21	1				5				00	1500



TABLE X. MSS. ETC.: XV CENT. GERMAN.

1. c. 1422. B.M., Add. 15107, f. 207 b, etc. Written at Lauben, near Görlitz in Saxony, in 1422. 2. c. 1420. B.M., Add. 15107, f. 215. Written at Lauben, near Görlitz in Saxony, about 1420. 3, 4. Betw. 1426 and 1430. B.M., Add. 15108, ff. 4 b, 90. German (Erfurt). 5. 1430. Libri, *Catalogue of the collection of manuscripts* (Sotheby's, 1859), No. 936. German, 26 June, 1430. 6. c. 1442. Plimpton Coll. Sacrobosco. German, copied by Hainricus Muglinch. The numerals are from a coloured illustration, representing Algorismus teaching a pupil the numerals from a sort of hornbook. D. E. Smith, *Rara Arithm.* p. 450 and pl. viii. 7. XV c. B.M., Add. 15107, ff. 36, 36 b. German. 8. XV c. B.M., Harl. 3843, f. 119. Sacrobosco. German. 9. XV c. B.M., Harl. 3843, ff. 25 a, 39 b, 40, 53 b, 99 b. Probably about 1458 (which date occurs frequently). The fork to the right-hand leg of the four is unusual. German. 10. 1468. B.M., Arund. 148. German (Erfurt). Postille Nicolai de Lyra, ff. 106 b, 192, 236 b, 283 b, 391 b. On fol. 192, 1458 is perhaps a blunder for 1468, as all the MS. seems to be contemporary. 11. c. 1463-1473. B.M., Add. 19909, f. 236 b. German. 12. 1473. B.M., Add. 19909, f. 250 b. German. Herolt, *Promptuarium*. 13. 1480. Admonter Hüttenbuch. German. *M.C.C.*, *N.F.* xx, p. 236. 14. XV c. Heidelberg (Pal. Germ. 342). German. From Wattenbach<sup>4</sup>, p. 102, no. 8. Cp. Prou, *Manuel*, p. 156. Contemporary pagination. 15. 1493. Drawing by Albert Dürer, Albertina. Child Jesus holding globe. Lippmann, 450. 16. 1494. Drawing by Albert Dürer, Albertina. Bacchanal rout. Lippmann, 454. 17. 1494. Drawing by Albert Dürer, Albertina. Battle between Tritons (after Mantegna). Lippmann, 455. 18. 1495. Drawing by Albert Dürer, Albertina. Venetian lady. Lippmann, 459. 19. 1497. B.M., Royal 6 A. viii, f. 121. Cp. Casley, pl. xvi. German. 20. 1498. Drawing by Albert Dürer, Albertina. Armed horseman. Lippmann, 461. 21. 1500. Drawing by Albert Dürer, Albertina. Nürnberg lady in ball dress. Lippmann, 464.

## XI. MSS.: SUPPLEMENTARY. XI-XV CENT.

1	1	6	3	9	4	6	1	8	9	.	XII
2	1	7	h	8	5	6	v	8	8		XII
3	1	6	3	9	4	6	1	8	9		XII
4	1	7	[2u]	[8]	4	6	1	8	9		mid XII
5		7	m	8	h	6	v	8	6		XII
6	1	6	h h	8	4	6	1	8	2 9		XIII
7	1	7	3	8	4	6	1	8	9		c. 1275
8	1	7	3	8	4	6	1	8	9	0	c. 1275
9	1	2	3	8	4	6	1	8	9	0	1276
10	1		3		4			8			1358
11	11	222	3	8	127	66	1	8			1421
12	1			888							1444
13	1		3	8	4					0	1450
14	1			8	4		1				1457
15	11			8			1			0	1471
16				8	9			8			1485
17	1			8					9		1499
18		222	333	88							late XV

TABLE XI. MSS.: SUPPLEMENTARY.

This table is supplementary to Tables I-X. (MSS. from the X to the XV century); but Italian MSS. of the XV century, Greek of the XIV-XV century, and various XVI-century MSS. will be found in Tables XII-XVI.

1. XII c. Gerlandus de abaco. Cod. Carolsr. 36<sup>t</sup>, fol. 79<sup>r</sup>. Treutlein in Boncompagni's *Bullettino di Bibl. e di Storia*, X (1877), p. 596. Smith and Karpinski, p. 88.
2. XII c. (mid). Gerlandus de abaco. Cod. lat. Monac. 14689, fol. 99<sup>r</sup>. Treutlein, *loc. cit.* Smith and Karpinski, *loc. cit.*
3. XII c. Bernelinus, liber abaci. Cod. Carolsr. 36<sup>t</sup>, fol. 106<sup>r</sup>. Treutlein, *loc. cit.* Smith and Karpinski, *loc. cit.*
4. XII c. (mid). Bernelinus, liber abaci. Cod. lat. Monac. 14689, fol. 49 v. Treutlein, *loc. cit.* Smith and Karpinski, *loc. cit.* The bracketed signs are by another hand.
5. XII c. Turchillus, Reguncule super abacum. Cod. Vat. 3123, ff. 55-64. Narducci in Boncompagni's *Bullettino*, xv (1882), p. 136.
6. XIII c. Paris lat. 15120. Radulphus of Laon de abaco. Nagl, *Zeitschr. für Math. u. Phys.* xxxiv, Supp. (1890), pp. 85 ff.
7. c. 1275. Bibl. Ste Geneviève R. 1. 17. French Algorism. Ch. Henry in Boncompagni's *Bullettino*, xv (1882), p. 51.
8. c. 1275. The same MS. as no. 7. Smith and Karpinski's facsimile, p. 143.
9. 1276. MS. Cambridge University Library, Ii 3. 3. Treatise on the astrolabe by Macha-allah (Astrolabium Messehalle). See W. E. A. Axon, *Proc. Manchester Lit. and Phil. Soc.*, 1876, p. 175; and W. W. Skeat's ed. of Chaucer's *Treatise on the Astrolabe* (E. E. T. S. and Chaucer Soc., 1872), pp. xxiv and 88 ff. Mr. S. C. Cockerell, who kindly supplied a note of the forms of the numerals, is inclined to suggest Liège or neighbourhood as the source of the MS.
10. 1358. B.M., Add. 38119, f. 67. German.
11. 1421. B.M., Add. 38021. Jacobus de Voragine, Sermones Dominicales. German: written in 1421 by Hermann, priest, perpetual vicar in Würm in Baden. [J. A. H.]
12. 1444. B.M., Add. 30049, f. 96 b. German (Würzburg). [J. A. H.]
13. 1450. B.M., Add. 22273, f. 194. Austria. [J. A. H.]
14. 1457. Drawing at Basel (standing figures of Saints), ascribed to Alsatian School. [Tracings by P. G. and C. F. Bell.]
15. 1471. London, Guildhall Library 959/1, f. 8<sup>r</sup>. Vestry minutes of Parish of St. Martin's Orgar. [Communicated by Mr. H. B. Walters and Mr. B. Kettle.]
16. M485. B.M., Add. 15700, f. 182. German. [J. A. H.]
17. 1499. Same MS. as no. 15, f. 9<sup>r</sup>. [Communicated by Mr. H. B. Walters and Mr. B. Kettle.]
18. XV c. (end). Edinburgh, Register House, Drummond MS. [Communicated by Mr. R. K. Hannay and Mr. C. W. Yule.]

## XII. MSS. : XV CENT. ITALIAN.

1	1	2	3	4	5	6	7	8	9	0	c. 1400-1
2	1	2		2			7	8			1427
3	1	2	3	44	55	6		8		o	c. 1400-3
4	1	2		44						o	1440
5	11	22	3	22	4	5	7	8	9	0	1444
6	1	2	33	4	555	6	7	8	9	o	c. 1420-4
7	1	22	3	4	5	6	7	8	9	o	c. 1456
8	1	2	3	4	555	6	7	8	9	o	XV
9	1	2	3	4	5	6	7	8	99		XV
10	11	2	333	44	55	6	7	88	9	o	XV <sup>1</sup>
11	1		5	7			<				1473
12	1			7			<	8			1478
13	1	2	3	4	5	6	7	8	9	o	c. 1475
14	111	222	33	44	555	6	7	8	9999	o	c. 1476
15	1			4			7	8			1478
16	1			4				8		o	1480
17	1	2	33	44	55	66	7	8	9	o	c. 1490



TABLE XII. MSS. : XV CENT. ITALIAN.

1. c. 1400-1416. B.M., Royal 12 D. vii. Italy or S. France (script looks Italian, initials and borders rather French).
2. 1427. B.M., Harl. 3161, f. 143 b. Bologna: Lactantius.
3. c. 1400-35. Plimpton Coll. Italian Arithmetic. D. E. Smith, *Rara Arithm.* p. 440.
4. 1440. B.M., Add. 14095, date at end. Italian.
5. 1444. B.M., Add. 18041, ff. 204 b, 205. Italian, begun at Perugia, finished at Pavia in 1444.
6. c. 1430. Plimpton Coll. Italian Arithmetic. D. E. Smith, *Rara Arithm.* p. 448.
7. c. 1456. Plimpton Coll. Italian Arithmetic. D. E. Smith, *Rara Arithm.* p. 460.
8. XV c. B.M., Add. 8784, ff. 50 b., 51. Italian.
9. XV c. B.M., Eg. 853. Italian.
10. XV c. (first half). B.M., Add. 10363. Italian. Treatise on Arithmetic. On ff. 223-229 are tables from 1418 to 1444. May have been written as early as 1418.
11. 1473. Left-handed. Drawing by Leonardo da Vinci (Landscape). Uffizi.
12. 1478. Left-handed. Drawing by Leonardo da Vinci (Heads). Uffizi.
13. c. 1475. Plimpton Coll. Italian Arithmetic by Luca da Firenze. D. E. Smith, *Rara Arithm.* pp. 469, 471.
14. c. 1476. B.M., Add. 22317. Italian Kalendar, ff. 90 b foll. In this MS. the S-shaped form of five occurs exceptionally (e.g. f. 98, f. 103).
15. 1478. B.M., Add. 18041. Letter (Italian) from Pavia, inserted at f. 39.
16. 1480. B.M., Add. 35310, f. 366. Italian Breviary, written at Piacenza.
17. c. 1490. Plimpton Coll. Italian treatise on elementary mathematics. D. E. Smith, *Rara Arithm.* p. 476.

## XIII. MSS.: XV CENT. ITALIAN (SUPPLEMENTARY).

1	2		3	q			8		1438
2	1			\$	4				1451
3	2	2		q	h				1452
4	1		3	4	p				1453
5	1			44	3				1454
6	1			4	gg				1455
7	6			y	gg				1455
8	2			q	3	6			1456
9	1			4		7		0	1470
10	1		3	2		7			1473
11	2			4		7	8		1478
12	2	2		20			8		1482
13	1			g				9	1490
14	21			4				7	1491

TABLE XIII. MSS. : XV CENT. ITALIAN (SUPPLEMENTARY).

All these are taken, by kind permission of Signor Cappelli, of the Archivio di Stato, Parma, from his *Dizionario di abbreviature latine ed italiane*, pp. 422-425.

1. 1438. Tolentino.    2. 1451. Genoa.    3. 1452.    4. 1453. Milan.  
 5. 1454. Milan. Cappelli describes this form of 5 as characteristic of  
 Lombardy.    6. 1455. Milan.    7. 1455. Lombardy. All the signs  
 are joined.    8. 1456. Genoa. 1 and 4 are joined.    9. 1470. Ferrara.  
 1 and 4 are joined.    10. 1473. Liguria.    11. 1478. Liguria. 4 and 7  
 are joined.    12. 1482. 1 and 4 are joined.    13. 1490.    14. 1491. Milan.

## XIV. MSS.: XIV-XV CENT. GREEK.

1	1	μ	μ	ς	ο	ς	ν	λ	9	ο	XIV
2	1	ζ	ς	ϛ	γ	μ	λ	8	9		XIV
3	1	ζ	3	λ	γ	6	λ	8	9		XIV
4	1	ν	μ	ς	8	γ	ν	λ	9		XV
5	1	μ	μ	ς	8	γ	ν	λ	9	ο	?
6	1	μ	μ	ς	ο	γ	ν	λ	9	ο	XV
7	1	ζ	ς	μ	λ	6	7	8	9	ο	XV
8	1	ζ	3	λ	γ	6	ν	8	9	ο	XV

## XV. MSS.: XVI CENT.

1	11		33		77					οο	1503
2	1			4	5					ο	1504
3	111				555	σ				οο	1505-10
4	1	2		λ	λ			8		φ	1508
5	1	2			λ					φ	1510
6	1		3		ς						1513
7	1			4	5						1514
8	1	2	3	4	ςς	6	7	8	9	ο	c. 1515
9	11				ς		>				1517
10	1	ζ	3		ς						1523
11	1	ζ	3	λ	5	6	λ	8	9	ο	c. 1524
12	1	~ ~	λλ	4	ςς	6	7	8	9	ο	1545
13	1	2	3	4	5	6	>>	οο	ο	ο	c. 1560



## TABLE XIV. MSS.: GREEK.

1. XIV c. Neophytus. From Friedlein, *Gerbert*, etc., pl. vi. 9. See P. Tannery, *Le scholie du moine Néophytos sur les chiffres Hindous*. *Rev. Arch.* iii. sér. 5 (1885), pp. 99–102, where this note on the ἀριθμοὶ ἰνδικοί or περσικοί is described from two Greek MSS. at Paris, 1928, f. 15 (XV cent.), and 2350, last folio (XVI cent.).
2. XIV c. Maximus Planudes. Friedlein, *Gerbert*, etc., pl. vi. 10, from an excerpt. On the MSS. of the ψηφοφορία see C. I. Gerhardt, *Das Rechenbuch des M. P.* (Halle, 1865); cp. Tannery in *Rev. Arch.* 1886 (i), pp. 357 ff.
3. XIV c. Cod. Marc. 534 (formerly 303). Maximus Planudes, ψηφοφορία. Villoison, *Anecd. Gr.* ii, p. 153 and plate at p. 267. This and the next MS. were kindly examined for me by Mr. W. Miller. They come from Cardinal Bessarion's library.
4. XV c. Cod. Marc. 639 (formerly 323). Maximus Planudes, ψηφοφορία. From Villoison, *Anecd. Gr.* ii, p. 153 and plate at p. 267. Must be earlier than c. 1470, since it was in Cardinal Bessarion's library.
5. Planudes, according to Tannery, *Rev. Arch.* 1886 (i), p. 359.
6. XV c. Cod. Marc., fondo Nani, 255, fol. 182 b. Scholium (in same hand as text) on Tetrabiblos of George Pachymeres. *Rev. Arch.* 1886 (i), p. 357.
7. XV c. Paris, fonds grec 2428. Tannery, *Rev. Arch.* 1886 (i), p. 359.
8. XV c. Paris, supp. grec 387. Copied from a XIV c. MS.? *Rev. Arch.* 1886 (i), p. 359. The forms are purely Western, but for the inverted 7.

## TABLE XV. MSS.: XVI CENT.

1. 1503. Owner's inscriptions in copies of the Confessionale of S. Antonino of Florence (of 1499) and Lochmaier's Parochiale (of 1493), in the Wolgaster Bibliothek, Greifswald (no. 456). In the second case the date is written 1053. [Tracings communicated by Prof. Pernice.]
2. 1504. Drawing by Albert Dürer, formerly in the Lanna Collection. Adam and Eve. From the Dürer Society's Reproduction.
3. 1505–1510. Various dates in vol. ii of the Works of Johann Butzbach (Bonn MS. 356). Fol. 1, incipit feliciter 15.6° (for 1506); 48<sup>b</sup>, a° dñi 156°; 138<sup>B</sup>, 1.5°5; 144<sup>A</sup>, 15°x (= 1510). [Drawings communicated by Dr. H. Willers.] See Böcking, *Opera Hutteni*, Supp. vol. ii, p. 438.
4. 1508. B.M., Royal 2 B. xiii. Note on fly-leaf. English. Casley, pl. xvi.
5. 1510. B.M., Royal 7 E. v. Caution. English.
6. 1513. Drawing by A. Dürer, Vienna Hofmuseum, Ambraser Sammlung (Siren as candle-bracket). *M. C. C.* viii, p. 127.
7. 1514. Drawing of a crozier (German). See *M. C. C.* iii, p. 190 and pl. vi.
8. c. 1515. Drawings attributed to Andreas Coner (Roman architectural sketchbook) in the Soane Museum. *Papers of the British School at Rome*, vol. ii (ed. T. Ashby). The hand is Italian.
9. 1517. Drawing by Wolf Huber in the Guildhall Library, London. From the Vasari Society's Reproduction, part III, 28.
10. 1523. Codex des Znaymer Stadtrechtes. Illuminated. *M. C. C.* xv, p. 92 and pl. i.
11. c. 1524. Quodlibetarius, MS. Erlangen, no. 1463. From Friedlein, *Gerbert*, etc., pl. vi.
12. 1545. Plimpton Coll. Italian, written by 'Ludovicho Alt de Salispurga'. Business arithmetic. D. E. Smith, *Rara Arithm.* p. 485. The numerals are rather Italian than German.
13. c. 1560. Plimpton Coll. Italian commercial arithmetic (Florentine). D. E. Smith, *Rara Arithm.* p. 489. With the recumbent 8 compare the forms in a MS. of 1684 (*ib.* p. 441), or in the date 1628 as signed by the Dutch painter Pieter de Grebber on a picture at Stockholm (no. 448). The same form occurs on various late false medals, purporting to belong to the XV cent. (see black list, p. 25, under 1488, 1498).

## XVI. MSS.: XVI CENT. (SUPPLEMENTARY).

1		22	33	44	55	66		8	9		1492-1
2	11				5					0	1501
3	1				4					0	1502
4	11	2			5						1512
5	11		3		5						1513
6	11		3		5						1513
7	1			4	5						1514
8	11			4	5						1514
9	1				5	6					1516
10	11				5	6					1516
11	11				5		7				1517
12	11				5				2		1519
13	0111	2	3	2	77	66	1	88	99	00	c. 1525
14	11	2	3	2	1	2	1	8	2	0	1526
15	2		3	4	5						1543
16	2			44	8						1544
17	112			44	555						1545
18	2			4	5			8			1548
19	2		3		5						1553
20	1		3		5						1553
21	111				555		77				1557
22	1				5	6					1565
23	1	2	3		5		7			0	1573
24	111			4444	555		777				1574
25	1	2	3	4	5	6	7	8	9	0	1586

TABLE XVI. MSS. : XVI CENT. (SUPPLEMENTARY).

(Nos. 1 and 15-24 are from drawings by Mr. C. W. Yule, communicated by Mr. R. K. Hannay, all the documents being in the Register Office, Edinburgh.)

1. 1492-1503. Ledger of A. Halyburton.
2. 1501. *Book of Hours of Anne de Bretagne*. French. *Rev. Archéol.* 1911, t. xvii, p. 72.
3. 150jj. Italian. Cappelli, *Dizionario di abbreviature*, p. 422.
- 4-12. Drawings by Urs Graf in the Basel Museum. (U. 10, 39, 43, 44, 50, 51, 75, 76, 80, 85); all from tracings by Dr. Paul Ganz.
13. c. 1525 (1522 or soon after). B.M., Nero A xiii. Dutch Chronicle of Monastery of Horn, Communicated by Mr. D. T. B. Wood.
14. 1526. Viennese. *Rechenbüchlein* of Christoff Rudolff. In the Viennese wine-cellars, the casks were marked according to their contents with figures of the forms given. *Monatsblatt der numismatischen Gesellschaft in Wien*, vii (1906), p. 132.
15. 1543. Letter (in a scribe's hand) from Matthew Earl of Lennox to the Queen Dowager.
16. 1544. Letter (with autograph signature) from Earl of Angus to Lord Maxwell.
17. 1545. Lord High Treasurer's Accounts.
18. 1548. Letter (in a scribe's hand) from Patrick Earl of Bothwell to the Queen Dowager.
19. 1553. Letter (in a scribe's hand) from the same to the same.
20. 1553. Letter (in a scribe's hand) from Janet Beaton Lady of Buccleuch to the Queen Dowager.
21. 1557. Register of Priv Seal, Vol. 28.
22. 1565. State Papers, Scotland No. 78. Petition of the Bailies etc. of Edinburgh to the Provost.
23. 1573. Lord Torphichen. Process in Household Papers (1573).
24. 1574. Register of Kirk Sessions of Edinburgh.
25. 1586. *Methodi sive compendii Mathematici libri iv aut.* Joanne Geddaeo Scoto. St. Andrews. Drawings by owner, Dr. Hay Fleming, communicated by Mr. Hannay. Geddy apparently desired to become a Secretary to James VI and did this little book as a show piece. Dr. Fleming and Mr. Hannay think, from the similarity of style and execution, that Geddy must have taught writing to Charles I and Elizabeth of Bohemia.

## XVII. BRITISH MONUMENTAL, XIII CENT.-1537.

	1	2	3	4	5	6	7	8	9	0	XIII <sup>2</sup>
1	11	7	3	2	45	6	Λ	88	9	0	I445
2	1			22	5						I448
3	2			2				8			I470
4	11			2	5		7			0	I487
5	2			2			Λ	8			I487
6	1			2			Λ	8			I49?
7	1			2					9		I490
8	1			2					9	0	I493
9	1		2	2					9		I494
10	1			2					9		I498
11	1			2				8	9		I503
12	1		2		h					0	I504
13	2			2	5					0	I509
14	1				5				9	0	I514
15	11			2	5						I524
16	1	2		2	5						I525
17	1	2			5						I527
18	1				5		Λ				I531
19	1		2		5						I534
20	1		2	e	h						I537
21	1		2		5		7				



## TABLE XVII. BRITISH MONUMENTAL, ETC.

1. Series of numbers from Resurrection images on West front of Wells. *Somersetshire Archaeol. and Nat. Hist. Soc. Proc.* xxxiv (1888), p. 62; *Proc. Soc. Ant.* 1906, xxi, p. 201. Mr. Lethaby has shown that the 2 is of the 7 shape; the numerals cannot therefore be later than the early XIV cent. The only difficulty is caused by the second form of 5. This is hardly possible in the XIII-XIV century. It may be a misread 3 or 6, and should be re-examined. Smith and Karpinski, p. 142, say that these numerals are 'undoubtedly considerably later' than the 13th century, but do not discuss the question.

2. 1445. Inscribed stone in tower of Heathfield Church, Sussex. *Journ. Brit. Arch. Assoc.* ix, p. 433; Wright, *Essays*, ii, p. 76. The stone is much worn, and the reproduction in the older authorities (from which the reproduction in the table is taken) shows a suspiciously modern form of 5. The accompanying illustration (Fig. 8), based on P. Lucas, *Heathfield Memorials* (Humphreys, 1910),

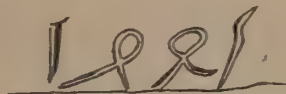


Fig. 8 (By permission of Messrs. P. Lucas and W. C. Alexander).

figure at p. 16, seems to be more satisfactory.

3. 1448. On wooden lych-gate, Bray Church, Berks. *Arch. Journ.* 1850, p. 75.

4. 1470. Elgin Cathedral. Tomb of first Earl of Huntly in St. Mary's aisle. Rubbing in Library of Soc. of Antiquaries. Communicated by Mr. J. Cooper Clark, of Ladyhill. Both 5 and 7 look strange; Mr. C. R. Peers has recently examined the inscription and doubts whether it is of the date.

5. 1487. Belfry door of Piddletrenthide, Dorset. Wright, *Essays*, ii, p. 85.

6. 1487. Wooden door at Arminghall. Wright, *Essays*, ii, p. 77.

7. 149? Beverley, on pavement near S. side of Earl of Northumberland's Monument. Gough, *Sep. Mon.* ii, 2, p. 309. The last figure is broken away.

8. 1490. Colchester. The lower part of the 4 being defaced, this has been read as 1090. Wright, *Essays*, ii, p. 78.

9. 1493. Stone in wall of cottage in remains of episcopal manor-house at Bishop's Waltham, Hants. *Arch. Journ.* 1850, p. 76.

10. 1494. Tower of Hadley Church, Middlesex. Wright, *Essays*, ii, p. 79.

11. 1498. On a shield in the hall of Milton Abbey. Wright, *Essays*, ii, p. 86.

12. 1503. St. Cross. On stone. This occurs twice, once in the Porter's Lodge, once in the 'Nun's Room'. *Arch. Journ.* 1850, p. 76; *Journ. Brit. Arch. Assoc.* ix, pl. xxxiv.

13. 1504. Arms of James IV of Scotland. On a buttress projecting from the W. side of the crowned tower of King's College, Old Aberdeen. *Proc. Soc. Ant. Scot.* xxiii, pl. i (p. 80). Communicated by Mr. W. Kelly.

14. 1509. Stone from London Bridge, found in 1758. Wright, *Essays*, ii, p. 80.

15. 1514. Milton Abbey Church. Wright, *Essays*, ii, p. 86.

16. 1524. On tabernacle at Kinkell Church near Inverurie. A.D. D.M. 1542. M.EORARE A. G. The initials are those of Alexander Galloway, 'Official' of Aberdeen and Rector of Kinkell. *Trans. Aberdeen Ecclesiol. Society* 1889 (1890). From a photograph communicated by Mr. W. Kelly. There is another stone dated 1525 in the same place.

17. 1525. On the screen of Winchester Cathedral. *Journ. Brit. Arch. Assoc.* ix, p. 434.

18. 1527. Stoke Charity, Hants; Waller tomb. *Ib.* p. 435.

19. 1531. Stone from E. battlements of vestry of church at Enfield. Gough, ii (1), p. 140, pl. xlix\*.

20. 1534. Beam in a roof of Eccleston Church, Lancs. Communicated by Mr. C. R. Peers. The assimilation of numerals to letters is very marked.

21. 1537. Wooden seat in Aldham Church, Suffolk. Wright, *Essays*, ii, p. 81.

## XVIII. BRITISH MONUMENTAL, ETC., 1545-1592.

1	I			4	SS					1545
2	I	2			II					1552
3	I		3		S		7			1577
4	I				S		>	8		1587
5	I	S			I				9	1592

## XIX. BRITISH MONUMENTAL (SUPPLEMENTARY).

1	J	Z		2				9		1429
2	J			2	h		^			1457?
3	I			2		2 <sup>(c)</sup>	^			146 (?)
4	I			2				8		1485
5	I			X				8	9	1489
6	I			2				8	9	1489
7	I		3		d					1513
8	ff			2	/					1514
9	1	22			h					1522
10	I		3		ff		^			1537
11	II			2	S					1541
12	I	2		2	S					1542
13	I			4	S					1544
14	I				S	6				1565
15	I				S		7			1571

TABLE XVIII. BRITISH MONUMENTAL, ETC. (*continued*).

1. 1545. Scratched on stone in choir, Winchester. *Journ. Brit. Arch. Assoc.* ix, p. 435. 2. 1552. From the Half-Moon Inn, near Magdalene College, Cambridge. T. Wright, *Essays*, p. 82, after Gough. 3. 1577. Date 1573 on tomb of Robert Blounte, Astley, Worcs., made in 1577 by John Gildon of Hereford. 4. 1587. Slab of a member of the Walweyn family, in floor of S. aisle of Colwall Church, Herefordshire. 5. 1592. Ashford Church. T. Wright, *Essays*, ii, p. 82, after Gough.

## TABLE XIX. BRITISH MONUMENTAL (SUPPLEMENTARY).

- 1, 2. 1429, 1457 (?) Corstorphine. Cut on the W. ingoing of the priest's door on the S. side of the chancel. Mr. W. Kelly, who sends these, refers to MacGibbon and Ross, iii, p. 254, for the statement that the church was begun in 1429; possibly the second date, which would seem to be 1457, is of its completion. 3. 146(?)7. Wraxall, Somerset. Tomb of Sir Theobald Gorges. Tracing by Miss A. Fry, who refers to G. S. Master, *Collections for a Parochial History of Wraxall* (Somersetshire Arch. and Nat. Hist. Soc., 1900). Master remarks (p. 91) that the third numeral, which looks like a 2, is really 6 reversed. The date of Sir Theobald's death is given in nearly all old writers as 1468. 4. 1485. On Isbury's Almshouses, Lambourne, Berks. (Rubbing, Soc. of Antiquaries). Communicated by Mr. Mill Stephenson. The 5, which is imperfect on the rubbing (but not on the original), is of the h-shape usual at this time in England. 5. 1489. On painted panels in south aisle of Choir of St. George's Chapel, Windsor. Communicated by Mr. W. H. St. John Hope. 6. 1489. Northleach Church, cut in the stonework of the S. transept. [Drawing by Mr. C. F. Bell.] 7. 1513. Brading, I. W. Cut on stone in niche behind pulpit in the church. Communicated by Mr. Percy Stone. This has been read M1d13, but the M really is an A, and the top bar of this letter has run into the top of the following I making it look like l; while the supposed d is an h-shaped 5 reversed. 8. 1514. Rusco Tower, Kirkcudbrightshire. [Photograph from Mr. A. O. Curle.] 9. 1522. Windsor. Below the paintings on north side of Oxenbridge Chapel, St. George's Chapel. Communicated by Mr. W. H. St. John Hope. 10. 1537. Falkland Palace, on columns. *Scottish Antiquary*, iv (1889), p. 148. 11. 1541. Oxford, Panelling in Hall of Magdalen College. [Drawing by Mr. C. F. Bell.] 12. 1542. Exeter Cathedral. Tombstone in floor of St. Andrew's Chapel. 13. 1544. St. Andrews Cathedral Museum; in relief on stone originally hewn for the castle in Cardinal Beaton's time. [Drawing by Dr. Hay Fleming.] 14. 1565. St. Andrews, Townhall; in relief on stone from old Tolbooth. Rather wasted. [Drawing by Dr. Hay Fleming.] 15. 1571. On Inn at Bosbury, Herefordshire. [Drawing by Miss A. Fry.]

## XX. BRITISH BRASSES.

1			2		^				1447
2	1		2	2	^				1454
3		2			^				1472
4	1		2			8	9		1481
5	2		2		^	8			1487
6	1		2			8	2		1489
7	1		3	2			9		1493
8	1			5				0	1510
9	11			5				0	1510
10	1		3	5		8			1538

## XXI. BRITISH BELLS.

1	1				5	6				1516
2	1	2	3		4					1523
3	2			4	5				φ	1540
4	1			2	5	6				1546
5	1				2		7	8		1587



## TABLE XX. BRITISH BRASSES.

(See also Table XXII, nos. 6, 7, 11, 13, 17, 19.)

1. 1447. Thomas Fortey, Northleach, Glo'ster. From rubbing in the Soc. Ant. Library.
2. 1454. Eleanor Coke, wife of William Bramble and Richard Warbulton, Ware, Herts. From rubbings in the Soc. Ant. Library and by Mr. C. R. Peers.
3. 1472. Ingylton, Thornton, Bucks. From a rubbing in the Soc. Ant. Library. Cp. T. Wright, *Essays*, ii, p. 77.
4. 1481. Wm. Yelverton, Rougham, Norfolk. From J. S. Cotman.
5. 1487. Sir Wm. Pecche, Lullingstone, Kent. From rubbing in the Soc. Ant. Library. Cp. Belcher, i, pl. lxxv, no. 145.
6. 1489. Thos. Gilbert, Allhallows, Barking. From rubbing in the Soc. Ant. Library. Cp. T. Wright, *Essays*, ii, p. 78.
7. 1493. Houghton Conquest, Beds. From rubbing in the Soc. Ant. Library.
8. 1510. John and Roger Yelverton, Rougham, Norfolk. From Cotman.
9. 1510. Wm. Bysse, Fellow of Merton. Merton College Ante-chapel, Oxford. From a rubbing.
10. 1538. Thomas Bullen, Hever. Rubbing by Mr. C. R. Peers.

## TABLE XXI. BRITISH BELLS.

(See also Table XXII, nos. 8, 12, 20, 22, 23.)

1. 1516. Isleham, Cambs. From a rubbing by Mr. H. B. Walters.
2. 1523. Leaden Roothing, Essex.
3. 1540. Stanstead Mountfitchet, Essex. 6th bell, now recast. From a rubbing belonging to Mr. H. B. Walters.
4. 1546. Felstead, Essex. Clock bell. From a rubbing belonging to Mr. H. B. Walters.
5. 1587. Turton Tower bell. From *Old South-East Lancashire*, vol. i (1880), p. 122.

## XXII. BRITISH: VARIOUS.

1	I	Z	3	2	4	5	Λ	8	9	0	c. 1260
2	I	2	3	2	4	5	Λ	8	9	0	1326
3	1	2	3	2 2	4	5	Λ	8	9	0	1342
4	11			2						0	1410
5	1	5	3	2 2	D	5	7 <	8	2 5 9	0	1480
6	1	2		2					9		1492
7	1	2		2					9		1492
8	1			Q	4				9		1495
9	1			2			Λ		9		1497
10	1			2			Λ		9		1497
11	1			2				8	9		1498
12	I				h					Φ	1505
13	11	22			55						1525
14	1	2			5	5					1526
15	1		3		5					0	1530
16	11		3		1						1531
17	1	2		4	5						1545
18	I			4	5			8			1548
19	1				5	5				Ø	1560
20	1		5		5	5					1563?
21	I			4	5		7				1574
22	1		3		5				9		1593
23	1				5				9		1595

## TABLE XXII. BRITISH: VARIOUS.

(This table also contains some brasses and bells, being thus supplementary to XX and XXI.)

1. c. 1260? Astrolabe in British Museum. The style of the numerals would be equally possible, if not more probable, at a rather later date.
2. 1326. Astrolabe in the British Museum bearing this date.
3. 1342. Astrolabe in the British Museum, signed 'Blakene me fecit anno do<sup>i</sup> 1342.' Mentioned *Arch. Journ.* xi. 30.
4. 1410. Seal of Fountains Abbey. Impression attached to document of 1424 at Durham. See J. R. Walbran, *Memorials of the Abbey of St. Mary of Fountains* (Surtees Society, 1863), p. lxix. Communicated by Mr. W. H. St. John Hope.
5. 1480. Caxton's *Mirroure of the World*. Wood-cut of Arismetrique. I am not certain that I have identified all the figures rightly.
6. 1492. Hurley, Berks. Brass of John Doyly. (Rubbing, Soc. Antiq.) Communicated by Mr. Mill Stephenson.
7. 1492. Stanford Rivers, Essex. Brass of Thos. Greville. (Rubbing, Soc. Antiq.) Communicated by Mr. Mill Stephenson.
8. 1495. Durham Castle, bell. *Proc. Newcastle Soc. of Antiquaries*, iii (1888), p. 427. [Mr. R. Blair.]
9. 1497. Quarry in window at St. Cross. *Journ. Brit. Arch. Assoc.* ix (1854), pl. xxxiv; *Arch. Journ.* 1850, p. 76. Drawing by Mr. Mill Stephenson.
10. 1497. 'Anathema' cup at Pembroke College, Cambridge. From a rubbing by Mr. Ellis Minns. On the under side of the foot. The inscription is given by Mr. Minns: 'T. langton Wintoñ eþs aule pembrochie olim foci<sup>9</sup> dedit hāc tasseā cooptā eidē aule .1.4.9.7' and also 'qui alienauerit anathema fit. lxxvii. ānc.' See also J. E. Foster and T. D. Atkinson, *Old Cambridge Plate*, p. 6, no. 8. The hall-mark is of 1481-2. The top is lost.
11. 1498. Norwich, St. Stephen's. Brass of John frankish. (Rubbing, Soc. Antiq.) Communicated by Mr. Mill Stephenson.
12. 1505. St. Mary Bredin, Canterbury; Bell. [H. B. W.]
13. 1525. (12 Apr.) Eton College Chapel. Brass of Walter Smith. [Rubbing by Mr. G. L. M. Clauson.]
14. 1526. Window in South Mimms Church, Middlesex. T. Wright, *Essays*, ii, p. 81.
15. 1530. E. window in vestry, Enfield, on a medallion with the arms of Thomas Lord Roose. Gough ii (1), p. 140, and pl. xlix\*.
16. 1531. On an English leaden token, probably of John Saltcot, Abbot of Hyde, 1530-1538. See *Journ. Brit. Arch. Assoc.* ix, p. 432.
17. 1545. (25 Aug.) Eton College Chapel. Brass of T. Edgcomb. [Rubbing by Mr. G. L. M. Clauson.]
18. 1548. English seal of St. Catherine's near the Tower of London, formerly in Dimsdale Collection (Sotheby's Catal. June 6, 1913; lot 26; the date is engraved on the back of the matrix).
19. 1560. Eton College Chapel. Brass of Robert Stokys and Elyzabeth his wife. [Rubbing by Mr. G. L. M. Clauson.]
20. 1563 (?) Hook (Dorset). Bell in St. Giles. [Impression from H. B. W.]
21. 1574. St. Andrews, incised on old pint-measure (brass or copper) in Council Chamber. [Drawing by Dr. Hay Fleming.]
22. 1593. Lincoln tenor bell. [From Mr. A. R. Malden.]
23. 1595. Terrington, Norfolk, fourth bell. [From Mr. A. R. Malden.]

## XXIII. GERMAN MONUMENTAL, 1388-1477.

1	1	3				8			1388
2	1		2		6				1406
3	1		2						1414
4	1	3	2				2		1439
5	1		2						1441
6	1		2 2		6				1446
7	1		2	7					1451
8	1	5	2	7					1453
9	1		2	7					1454
10	1		2	7					1454
11	3		2	7		8			1458
12	1		2 2		6				1464
13	1		2	7	6				1465
14	1		2		6				1466
15	1		2		6	Λ			1467
16	1		2 2			Λ	9	0	1470
17	1		2			1		0	1470
18	1		2			1		0	1470
19	1	3	2			Λ			1473
20	1		2			Λ			1474
21	1		2		6	Λ			1476
22	1		2			Λ			1477



## TABLE XXIII. GERMAN MONUMENTAL, ETC.

1. 1388. Ulm. Tombstone of Cunrat Riter. *Verhandl. des Vereins f. Kunst u. Alterthum in Ulm u. Oberschwaben*, vi (1874), pp. xiv f.; *Anzeiger*, 1876, 35; Wattenbach, *Lat. Pal.*, p. 101; *The Scottish Antiquary*, vi (1892), p. 132. The stone was found some feet deep in a cemetery which had not been used since 1530.
2. 1406. Salteins, Vorarlberg. Inscription on tabernacle. *M.C.C.*, *N.F.* xxii, p. 31. The date is written +146+.
3. 1414. Pettau. Inscription on a bracket. *M.C.C.*, *N.F.* vi, pp. cxii, cxiv.
4. 1439. Nürnberg. Lorenzkirche. *Anzeiger*, 1861, 49.
5. 1441. Freising. Choir-stalls from Stiftskirche of St. Veit. *M.C.C.* viii, p. 250. An excellent instance of the sort of date that can be read 1001.
6. 1446. Pettau. Stall. *M.C.C.*, *N.F.* vi, p. cxliv.
7. 1451. Wiener Neustadt. Gravestone of Anna Roll, wife of Johann Roll, who was Bürgermeister of Neustadt 1467-1471. Ströhl, *Herald. Atlas*, text to pl. lxvi, fig. 4. The date of Roll's tenure of office does not of course prove that the date is 1471 rather than 1451.
8. 1453. Würzburg, Dom. Coat of arms of Jörg von Bebenburg. After Salver, *Proben des hohen Deutschen Reichs-Adels*, Taf. XVII. 65. Salver's facsimile is incorrect, and this should be corrected by Table XXVIII, no. 3.
9. 1454. Grätz. Tombstone in Franciscan monastery. *M.C.C.*, *N.F.* xvi, p. 75.
10. 1454. Nördlingen. Over porch of tower of Georgenkirche. *Anzeiger*, 1861, 153. The reading 1474 has been suggested; but this form of 7 is not likely at so early a date (see nos. 15-22 in this Table, and 1, 2, 13, 14 in the next.)
11. 1458. Ulm. Oak singing-desk by Jörg Sürlin. *Anzeiger*, 1861, p. 49. See *Berichte des Kunst- und Alterthumsvereins von Ulm und Oberschwaben*, 1844, p. 17.
12. 1464. Villach. On choir-stall in church. *M.C.C.*, xv, p. 173; cp. iii, p. 127.
13. 1465. Feldkirch. On a house in the Marktgasse. *M.C.C.*, *N.F.* viii, p. lxxi.
14. 1466. Friesach. Stone built into a house. *M.C.C.*, *N.F.* xxii, p. 169.
15. 1467. Wiener Neustadt. Gravestone of Empress Eleonora in Cistercian Abbey of Neukloster. By Nicolaus Lerch of Leyden, *M.C.C.* xiv, p. 103.
16. 1470. Garsten. Tomb of Rudolf von Losenstein in the Losenstein Chapel. *M.C.C.*, *N.F.* v, p. xliii. The monument bears the dates 1449 and 1470; the latter is probably the date of its erection or of the death of Rudolf's wife Magdalena.
17. 1470. Ulm. Carved on a roof-beam on N. side of nave of the Minster. *Anzeiger*, 1861, 231. Rather 1470 than 1450, since the short stroke of the doubtful sign turns so definitely downwards.
18. 1470. Hall. Katharinenkirche. *Anzeiger*, 1861, 85, 153. This has also been read 1450, but 1470 is to be preferred for the same reason as in the preceding example.
19. 1473. Ulm. Cut in stone over door of the Dürftige Stube in the hospital. *Anzeiger*, 1861, 84.
20. 1474. Vienna. Gravestone of Margaretha Kelbel. Ströhl, *Heraldischer Atlas*, Text zu Taf. LXVI, fig. 5.
21. 1476. Kralitz. Tomb of Vitus de Kralitz. *M.C.C.*, *N.F.* xxvii (1901), p. 117.
22. 1477. Krems (Lower Austria). Over S. doorway of Church of the Piarists. *M.C.C.* xi, p. 133.

## XXIV. GERMAN MONUMENTAL, ETC., 1477-1495.

1	†			Q			^^				1477
2	‡			Q			^		9		1479
3	‡			Q				8		0	1480
4	‡			Q				8		0	1480
5	‡‡			Q				8			1481
6				Q				8			1481
7	‡	2		Q				8			1482
8	‡	2		Q				8			1482
9	‡			Q Q				8			1484
10				Q				8			1484
11	‡			Q		6		8			1486
12	‡	2		Q		66		8			1486
13				Q			^	8			1487
14				Q			^	8			1487
15	‡			Q				8			1488
16	†			Q				8			1488
17				Q					2	0	1490
18				Q					9		1491
19				Q					Q		1491
20	‡	2		Q					9		1492
21	‡		3	Q					9		1493
22	‡		3	Q					9		1493
23	‡			Q	4				9		1495

TABLE XXIV. GERMAN MONUMENTAL, ETC. (*continued*).

1. 1477. Gravestone of Eustach Frodnacher at Pulgarn. *M.C.C., N.F.* v, p. cxxix.
2. 1479. Marble slab of Sigmund von Eytzing, in parish church of Waidhofen a. d. Ybbs. *M.C.C., N.F.* i, p. xxxiii.
3. 1480. Tabernacle, St. Lorenz, Lorch. *M.C.C.* xiii, p. 179.
4. 1480. Brass of Archbishop Jacobus de Senno. Gnesen. From Creeny, *Monumental Brasses on the Continent*.
5. 1481. On statue of St. Leonhard in church at Kundl (Tyrol). *M.C.C., N.F.* xvi, p. 149 (fig. 7).
6. 1481. On tabernacle at Röthis (Vorarlberg). *M.C.C., N.F.* xxii, p. 32.
7. 1482. Brass of Bishop Rudolphus, Breslau. From Creeny, *op. cit.*
8. 1482. On the so-called Fischkasten at Ulm. *Anzeiger*, 1861, 83.
9. 1484. Arms of Kilian von Bibra, in the Dom, Würzburg. From Salver, Tab. VII. 21.
10. 1484. Builder's inscr., chapel of St. Agatha on Christberg (on the pass to Dalaas in the Klosterthal). *M.C.C., N.F.* v, p. 67.
11. 1486. Tombstone of Eitzinger family in parish church, Drosendorf. *M.C.C.* xvii, p. clv.
12. 1486. Brass of Ernst, Duke of Saxony, at Meissen. From Creeny, *op. cit.*
13. 1487. Inscr. on tabernacle at Damüls (Vorarlberg). *M.C.C., N.F.* v, p. 68; xxii, p. 32.
14. 1487. Gravestone in Church of St. Lorenz, Lorch. *M.C.C., N.F.* v, p. cxxix.
15. 1488. Brass of Cardinal Nicolas de Cusa, at Cues on the Mosel. From Creeny, *op. cit.*
16. 1488. Gravestone at Friesach. *M.C.C., N.F.* viii, p. 114.
17. 1490. Choir-stalls, Spitalkirche, Stuttgart. *Anzeiger*, 1861, 231.
18. 1491. On corbel under tabernacle in church of the Benedictines at Odenburg. *M.C.C.* viii, p. 343.
19. 1491. Builder's mark in church at Hüttenberg (Kärnten). *M.C.C., N.F.* xxiii, p. 110 and plate.
20. 1492. On tomb of King Kazimierz Jagiellończyk at Krakau, by Veit Stosz. *M.C.C.* xiii, p. li.
21. 1493. Gravestone of Anna Hoffer at Schwatz. *M.C.C., N.F.* xxiii, p. 40.
22. 1493. Gravestone of Johann Lenberg in church at Reichersberg in the Innviertel. *M.C.C., N.F.* v, p. xcvi.
23. 1495. On tabernacle at Egg (Vorarlberg). *M.C.C., N.F.* xxii, p. 33. The doubtful figure has been read as 7, but I think there can be no doubt that it is a 5.

## XXV. GERMAN MONUMENTAL, ETC., 1495-1503.

1	l			⌘	5			9		1495
2	⌘			⌘		6		9		1496
3	l			⌘			^	2		1497
4	⌘			⌘			^	9		1497
5	⌘			⌘			^	9		1497
6	l			⌘			^	9		1497
7	l			⌘			^	2		1497
8	l			⌘			7	9		1497?
9	l						7	9		1497?
10	)			⌘ ⌘			7	8	9	1497
11	)			⌘				8	9	1498
12	ll			⌘ ⌘			7	8	9	1499
13	I			⌘					99	1499
14	l			⌘					9	1499
15	l			⌘					9	1499
16	l			⌘					9	1501
17				⌘					99	1499
18	l				5				0	1500
19	l				5				0	1500
20	ll				5				0	1501
21	7	2			5				0	1502
22	)	2			5				0	1502
23	l		z		7				0	1503



TABLE XXV. GERMAN MONUMENTAL, ETC. (*continued*).

1. 1495. Marble tombstone of Jeronimus Schrenck, at Loiben. *M.C.C., N.F.* xvii (1891), p. 61, and Beilage v, fig. 2.
2. 1496. On stone panel from the castle at Grätz. *M.C.C., N.F.* xx, p. 51.
3. 1497. On wooden aumbry niche at Biecz. *M.C.C., N.F.* xix, p. 229.
4. 1497. Landeck on the Inn: under shield of Oswold von Schrofenstein on S. wall of church. *M.C.C., N.F.* xvi, p. 27.
5. 1497. Landeck. Gravestone. *M.C.C., N.F.* xvi, p. 27.
6. 1497. Landeck. Under shield of Oswald von Schrofenstein, *M.C.C., N.F.* xvi, p. 28.
7. 1497. Stone in gable of Church of St. Ruprecht in Bezirk Strassenfuss. *M.C.C.* vii, p. 188.
8. 1497. At Kuttendorf in Bohemia, in the tower-chamber of the old Münsterberg house. *M.C.C.* vi, 318. The 7 seems to be clear.
9. 1497, written m-cccc-97. Tomb of Wolfgang Hellcampf at Efferding im Hausruckviertel. *M.C.C., N.F.* vi, p. xlv. The doubtful figure might possibly be meant for a 5.
10. 1497. Dates on the tombstone of Jörg von Teuffenbach (died 1497) and his family at Teuffenbach in Steiermark. *M.C.C., N.F.* xvii, p. 226, and Beilage xv, fig. 3.
11. 1498. Brass of Bishop Uriel, Posen. From Creeny, *op. cit.*
12. 1499. St. Jacob's, Villach. The dates 1487 and 149? occur on the gravestone of Wolfgang and Jeronima Leininger; the former died in 1499, the latter in 1487. *M.C.C.* xix, p. 144.
13. 1499. Grätz, Hauszeichen on outside of Dom. *M.C.C.* xix, p. 122.
14. 1499. Gravestone at Ungarisch-Hradisch. *M.C.C., N.F.* xxiii, p. 102.
15. 1499. Tabernacle in Leechkirche, Grätz. *M.C.C.* iv, p. 219.
16. 1499. Tombstone of Eitzinger family at Drosendorf (not earlier than 1501). *M.C.C.* xvii, p. clvi.
17. 1499, written m499. Signature of Veit Stosz on relief of Kiss of Judas in Church of St. Sebaldus, Nürnberg (on the scabbard of one of the Orientals). *Anzeiger*, 1862, 403. This is rightly explained as a date by Lepkowski, *M.C.C.* xii, p. lxxxv.
18. 1500. Arms of Georg Fuchs von Wonfurt. Dom, Würzburg. Salver, Tab. III, 8.
19. 1500. Arms of Barth. von Reie. Dom, Würzburg. Salver, Tab. V. 14.
20. 1501. Arms of Georg von Giech. Dom, Würzburg. Salver, p. 146, 2.
21. 1502. Gmünd, Spitalkirche. *Anzeiger*, 1861, 231.
22. 1502. Arms of Albrecht von Bibra. Dom, Würzburg. Salver, Tab. V. 15.
23. 1503. Cilli (Styria). Gravestone of a Hohenwarter. *M.C.C., N.F.* vii, p. lxxv.

## XXVI. GERMAN MONUMENTAL, ETC., 1504-1520.

1	l			4	ſ					0	1504
2	l				ſſ					0	1505
3	l				ſ					0	1505
4	l				ſ					0	1505
5	l				ſ	6				0	1506
6	l				3	6				0	1506
7	l				ſ	6				0	1506
8	l				ſ	6				0	1506
9	l				ſ	6				0	1506
10	ll				ſ	6			9	0	1506
11	l				ſ		^			0	1507
12	l				ſ		^			0	1507
13	l				ſ			8		0	1508
14	l				ſ				9	0	1509
15	ll				ſ					0	1510
16	ll				ſ					0	1510
17	ll				ſ						1511
18	l		3		ſ						1513
19	ll		3		ſ						1513
20	ll		3		ſ						1513
21	l				ſ	6					1516
22	l	z			ſ					0	1520
23	l	z			ſ					0	1520

TABLE XXVI. GERMAN MONUMENTAL, ETC. (*continued*).

1. 1504. Partschendorf. Tombstone on outer wall of church. *M.C.C. N.F.* xxv, p. 43.
2. 1505. Taufers. Tombstone of Anna Wiltpolt. *M.C.C., N.F.* xxi, 256.
3. 1505. Sebenstein. Gravestone. *M.C.C. N.F.* xi, p. xlii.
4. 1505. Brass of Eberhard von Rabenstein, Bamberg. From Creeny, *op. cit.*
5. 1506. Font in church on the Heerberg. *Anzeiger*, 1861, 232.
6. 1506. Rankweil, on crossbeam of bell-frame in the 'Dicker Thurm'. *M.C.C., N.F.* xxi, p. 241.
7. 1506. Landeck. Porch of church. *M.C.C., N.F.* xvi, p. 24.
8. 1506. Landeck. Stone font. *M.C.C., N.F.* xvi, p. 25.
9. 1506. Gmünd. In side chapel of parish church. *Anzeiger*, 1861, p. 232.
10. 1506. Tombstone of Heinrich and Anna von Guttenberg at Wolfsberg (Kärnten). *M.C.C., N.F.* xviii, p. 111.
11. 1507. Salzburg. Gravestone. *M.C.C., N.F.* xi, p. lxviii.
12. 1507. Nassenreith, near Imst, Tyrol. Stone font. *M.C.C., N.F.* xviii, p. 65.
13. 1508. Klosterneuburg. Gravestone. *M.C.C., N.F.* xiv, p. 51.
14. 1509. Laterns, Vorarlberg. Inscription on tabernacle. *M.C.C., N.F.* xxii, p. 32.
15. 1510. Wooden Todtenschild, from Salzburg, of 'Georg Stöck von Schwarzcek'. *M.C.C., N.F.* xxv, p. 107.
16. 1510. Kufstein, Tyrol. Tombstone of Kaspar v. Thurn.-Ströhl, *Herald. Atlas*, Text zu Taf. LXVII, fig. 5.
17. 1511. Sebenstein. Gravestone. *M.C.C., N.F.* xiii, p. xlvi.
18. 1513. Gurkfeld. Tablet in Church of St. John. *M.C.C., N.F.* xviii, p. 124.
19. 1513. Langenzenn. Relief of Annunciation, by Veit Stosz. *Mitt. Germ. Nationalmus.* 1908, Taf. IX.
20. 1513. Steier (Upper Austria). Tombstone of Meister Wolfgang Tenk. *M.C.C.* xvii, p. li; *N.F.* xvi, p. 153.
21. 1516. Cilli, parish church. Tomb of Jakob Neuburger's two wives. *M.C.C., N.F.* xvi, p. 254, and Beilage xx, fig. 3.
22. 1520. Schönberg near Vöcklabruck. Monument of Caspar von Perkheim in the Marienkirche. *M.C.C.* xv, p. cxvii.
- 23 (and XXVII. 18, 23, 24). 1520, 1536, 1543, 1544. Luggau (Kärnten). Hauszeichen-dates on church. *M.C.C. N.F.* xxvi (1900), p. 19 and plate.

## XXVII. GERMAN MONUMENTAL, ETC., 1521-1544.

1	II	Z			5					1521
2	I	Z			5					1521
3	\	55			\					1522?
4	L	2	3		5					1523
5	J	Z		X	7					1524
6	I	I		2						1524
7	I	Z		4	7					1524
8	I	Z		4	5					1524
9	I	Z		2	5					1524
10	/	Z		9	5					1524
11	I	2		2	5					1524
12	I	Z			Σ	6				1526
13	I	Z			5		8			1528
14	I	2			5	6		9		1529
15	J		33	X	5					1533
16	I		3	4	5					1534
17	J		W	4	6					1534?
18	L		3		7	6				1536
19	I		3		5		7			1537
20	II	2	3	4	55			99		1541
21	III	Z		4	55			9		1542
22	8	0		4	8					1542
23	do.		3	X	7					1543
24	L			XX	7					1544

TABLE XXVII. GERMAN MONUMENTAL, ETC. (*continued*).

1. 1521. Maria Feicht (Kärnten). Shield on vaulting of organ-gallery. *M.C.C.* xiii, p. 77. 2. 1521. Tarnów. Marble inscription on monument (in Italian style) of Barbara Tarnowska. *M.C.C.*, *N.F.* xix, p. 73. 3. 1522 (?). Ringenhain (Friedland). Builder's inscription in St. Magdalen's. *M.C.C.*, *N.F.* xxii, p. 154. 4. 1523. Nürnberg, Germ. Nationalmus. Bronze epitaph of Mertin Stengel. *Mitt. Germ. Nationalmus.* i, p. 185. Cp. the forms on the '1320' seal of Trostberg (above, p. 22). 5. 1524. Römheld, Old Henneberg Schloss. Keystone of a small pointed-arched door. *Anzeiger*, 1863, 324. 6. 1524. Friesach. Tombstone of Coloman Brunmeister. 'M.D.24. die 21', &c. *M.C.C.*, *N.F.* vi, p. cx. 7. 1524. Feldkirchen. On a house. (Painted or carved?) *M.C.C.*, *N.F.* xxii, p. 170. 8. 1524. Olmüz. Builder's inscription in St. Michael's. *M.C.C.*, *N.F.* xix, p. 131. 9. 1524. Latsch (Vintschgau). Builder's date in church. *M.C.C.*, *N.F.* xxiii, p. 213. 10. 1524. Maria Feicht (Kärnten). Stone music-gallery in church. *M.C.C.*, *N.F.* xxiv, p. 107. 11. 1524. Prusinovic (Mähren). Gravestone. *M.C.C.*, *N.F.* xix, p. 34. 12. 1526. Brensbach Evangel. Church. Date under the arms of Philip the Magnanimous on the pulpit. *Archiv f. hess. Gesch.* v, pt. 2, art. xii. Important in its bearing on the forms seen on the seal of Gottfried von Hohenlohe (p. 21). 13. 1528. Salzburg. Tombstone of Hans Reuter von Klebing. [Reference mislaid.] 14. 1529. Enns im Traunviertel, Austria. Gravestone of Erasmus Paumkirchner. *M.C.C.*, *N.F.* vii, p. cviii. 15. 1533. Wolfsberg. Tombstone of G. von Streitberg. *M.C.C.*, *N.F.* xviii, p. 150. Note the two forms of 3, one of which might almost be taken for a 2. The 1 is somewhat confused with the preceding ornamental stop. 16. 1534. Clay water-pipe from Bochtitz. *M.C.C.*, *N.F.* xxi, p. 50. 17. 1534. Weikelsdorf near Zeitz. On a pillar of the church (beginning of XVI cent.). *Anzeiger*, 1863, 322. The interpretation is not quite sure, the inscription being a freak. There is a still worse instance in the church at Langendorf, near Zeitz (*ib.* p. 323), which has been read 1531 or 1571, although it is difficult to make anything at all out of it. 18. See XXVI. 23. 19. 1537. Regensburg. Sandstone slab outside Church of St. Emmeran. L. Day, *Lettering in Ornament*, after Gerlach u. Schenk, *Monum. Schriften*. 20. 1541. Nürnberg. Bronze epitaph. L. Day, *Lettering in Ornament*, p. 54, after Gerlach u. Schenk, *Bronze-Epitaphien der Friedhöfe zu Nürnberg*. 21. 1542. Brunn. Tombstone (in Dom) of Michael of Regensburg and his wife, bearing dates 1519 and 1542, all probably of the latter date. *M.C.C.*, *N.F.* xix, p. 133. 22. 1542. Raigern. Gravestone of Abbot Ambrosius. *M.C.C.*, *N.F.* xxi, p. 123, where the date is described as 1542 corrected to 1540; from the illustration it would appear that the last sign is merely a 2 with ornamental serifs. 23, 24. See XXVI. 23.



## XXVIII. GERMAN MONUMENTAL, ETC.

(SUPPLEMENTARY, 1383-1492).

1	↓		33				8		1383
2	ll			8				2	1419
3	1		3	8	h				1453
4	j			8 8	7				1454
5	1			8	h		^		1457
6	1			8		6	^		1476
7	s			8		6	^		1476
8	1			8			^		1477
9	ll			8			8		1481
10	1	2		8			8		1482
11	1			8			8		1484
12	1			8			8		1484
13	7			8	7		8		1484
14	1			8		6	8		1486
15	1			8			8		1487
16	1			8			8	?	1489
17	1			8				9	1490
18	j			8				9	1490
19	1	i		8				9	1492
20	j	z		8				9	1492

## TABLE XXVIII. GERMAN MONUMENTAL, ETC.

(SUPPLEMENTARY, 1383-1492).

1. 1383. Wertheim. Outside nave of the Evangelical Church. Mr. G. H. Lockner, who supplies the rubbing, questions the antiquity of the date; but the forms are excellent.
  2. 1419. Wertheim. Outside tower of Evangelical Church. [Rubbing by G. H. L.]
  3. 1453. Würzburg, Dom, Arms of Jörg von Bebenburg. [Tracing by G. H. L.] This is given less correctly in Table XXIII. 8, from Salver's *Proben*.
  4. 1454. Ulm. Choirstall by Jörg Sürlin. [Drawing by P. G.] Cp. also Table XXIII. 11.
  5. 1457. Würzburg Museum. On the back of a wooden Madonna. The date has been doubted, as it seems to me, without reason. [G. H. L.]
  6. 1476. Randersacker near Würzburg, parish church. [Tracing by G. H. L.]
  7. 1476. Berne. Sepulchral slab in N. aisle of the Minster. [Drawing by Mr. Warwick Wroth.]
  8. 1477. Rothenburg an der Tauber. Arms of Hornburg on a house, Herrenstr. no. 46. [G. H. L.]
  9. 1481. Near Würzburg, on road to Veitshöchheim; on an expiatory cross by Hans Hofsteter in wall of a vineyard. See Denzinger, p. 171. [G. H. L.]
  10. 1482. Würzburg. Arch of door of old Rathaus. [G. H. L.]
  11. 1484. Coire. Tabernacle in Cathedral. [G. B. C.-L.]
  12. 1484. On a stone formerly in the possession of the Historischer Verein, now in the Fränkisches Museum at Würzburg, with a scene from St. Luke i. 26 ff. [Rubbing by G. H. L.] See Denzinger, p. 170. The 8 is broken away below.
  13. 1484. St. Gallen. Stone-relief with Standeswappen. [Photograph from P. G.]
  14. 1486. Wertheim a. M., near; monument on path to Vockenrod. [G. H. L.]
  15. 1487. Strassburg, St. Thomas. Gravestone in left aisle, third chapel. [Drawing by P. G.]
  16. 1489. Zug. Relief in Hauptplatz with figure of Wild Man. [Drawing by P. G.]
  17. 1490. Würzburg. Arms of Canon Pankraz von Redwitz in old 'Domherrnhof Tannenberg'. [Drawing by G. H. L.]
  18. 1490. Würzburg. On house 'Zum Leibrich', now Dettelbachergasse Nr. 3. [Drawing by G. H. L.]
  19. 1492. Maigrange (Magerau). Gravestone of Abbess Jeanne de Colombier. [Drawing by P. G.]
  20. 1492. Wertheim. Rathaus, outside wall. [Rubbing by G. H. L.]
- The form of the 1 is not clear to me.

## XXIX. GERMAN MONUMENTAL, ETC.

(SUPPLEMENTARY, 1493-1514).

1	11		33	2				99		148
2	L		3	2				9		149
3	1			2			^	9		149
4	1			2				9		149
5	1			2			8	9		149
6	J			2			8	9		149
7	1			4				9		149
8	+					0			0	150
9	+			2		2			0	150
10	1					1			0	150
11	1					4			0	150
12	11					7			0	151
13	+		3			7				151
14	31			2		5				151

TABLE XXIX. GERMAN MONUMENTAL (SUPPLEMENTARY, 1493-1514).

1. 1493. On the stone brackets supporting the figures of Adam and Eve by Riemenschneider, in the Fränkisches Museum, Würzburg. [Rubbings by G. H. L.]
2. 1493. Würzburg, Neumünsterkirche. On bracket of stone Madonna by Tilmann Riemenschneider. [Tracing by G. H. L.]
3. 1497. On arch of passage through the Choir in the Church of St. Burkhard, Würzburg. Denzinger, p. 170. [Drawing by G. H. L.]
4. 1498. Very neatly cut on a pillar in the church of the Monastery of Brombach near Wertheim. [Drawing by G. H. L.]
5. 1498. Wyl, near St. Gallen. Door of St. Peter's Chapel. [Drawing by P. G.]
6. 1499. Würzburg. Arms of Canon Johann von Grumbach in old 'Domherrnhof Augsburg.' [Drawing by G. H. L.]
7. 1499. Rothenburg an der Tauber. Bronze epitaph of Jacob Schmid in the Franciscan church. [G. H. L.]
8. 1500. Zürich Landesmuseum; from Lommis. Bronze tablet with arms of Muntprat. [Photograph from P. G.]
9. 1504. Lommis, Thurgau. Bronze tablet of Ludwig Muntprat. [Photograph from P. G.]
10. 1507. Freiburg, Switzerland. Grossestr. 107; house-sign on shield held by angels. [Drawing by P. G.]
11. 1507. Maur, Canton Zürich. Church tower. Inscription and date. [Drawing by P. G.]
12. 1510. Strassburg. Gravestone of Niclaus Roeder. [Drawing by P. G.]
13. 1513. Zürich Landesmuseum; from Lommis. Bronze armorial plate of Lipfrid Muntprat v. Spiegelberg. [Photograph from P. G.]
14. 1514. Würzburg Museum. Arms of Prince Bishop Lorenz von Bibra, formerly at the old Landgerichtsgebäude. [Tracing by G. H. L.]

## XXX. GERMAN SEALS, 1351-1453.

[1	11		3							1331]
2	1		3		5					1351
3	1		3			6		8		1368
4	1		3			6			9	1369
5	1			2	2					1405?
6	11	2		2						1412
7	1	2		2	3					1425
8	1	2		2					9	1429
9	1		3	2						1433
10	1		33	2						1433
11	1		3	2		6				1436
12	1			22					0	1440
13	1			2						1444
14	1			2						1444
15	1			2						1444
16	1			2		6				1446
17	1			2		6				1446
18	1			2	4				0	1450
19	1			2	7					1450+
20	1	2		2	4					1452
21	1		3	2	4					1453



## TABLE XXX. GERMAN SEALS.

1. 1331. City of Heidingsfeld am Main. *Anzeiger*, 1859, 249. On this date, which is not contemporary, see the list of doubtful instances, p. 23.
2. 1351 (*Archaeol.* lxii, pl. XIX, no. 5). City of Ulm. Germ. Mus., Nürnberg. 'Sigillum secretum civium in ulma 1351.' *Anzeiger*, 1859, p. 250; *Verhandl. des Vereins für Kunst u. Alterthum in Ulm u. Oberschwaben*, vi (1874), pp. xiv f.
3. 1368. Johann I, Landgraf zu Leuchtenberg. *Anzeiger*, 1859, 373. Impressions in the K. bayer. Reichsarchiv.
4. 1369. Hermann der Rot von Ulm. *Anzeiger*, 1861, 153; 1869, 326 (illustrated). It is noted that the form of the shield is unusual at this time.
5. 1405. This is apparently the date on an obscure seal of the city of Wimpfen in the Germ. Mus., Nürnberg. *Archaeol.* lxii, pl. XIX, no. 4. The legend appears to be 'S. Secreti (sic) Oppidi Wimpfensis 1405'. The 5 is like a modern 2 set on its side. This may be the seal which is described in *Anzeiger*, 1859, p. 250, as reading 1426.
6. 1412. Johann, Abbot of Kaisersheim. Germ. Mus., Nürnberg. *Anzeiger*, 1859, p. 251. *Archaeol.* lxii, pl. XIX, no. 6. 'Sigillum iohannis abbatis in cesarea h (?)'. The date 1412 is in the field. This is Johann Scherb, eighteenth abbot, 1405-1423.
7. 1425. Propst Ulrich in den Wengen. *Anzeiger*, 1861, p. 82.
8. 1429. Bishop Albrecht II of Eichstädt. Germ. Mus., Nürnberg. *Anzeiger*, 1859, p. 251. *Archaeol.* lxii, pl. XIX, no. 3.
9. 1433. Monastery of St. Oswald. Germ. Mus., Nürnberg. *Archaeol.* lxii, pl. XIX, no. 7. '1433. s. conventus monasterij s. oswaldi canonicorum regular.' In *Anzeiger*, 1859, p. 251, this is described as a seal of the Monastery of Niederaltaich. St. Oswald's, however, was an Augustinian house, near Gravenau in the diocese of Passau, though it seems to have been in some way dependent on the Benedictine house at Niederaltaich. On this seal the arms of the house are simply [az.] a fess [arg.]; above the shield is a raven holding a ring in its beak. Sibmacher, *Klöster*, p. 67, Taf. 83, gives a later version of the arms.
10. 1433. City of Stuttgart. 'S. civium in Stutgarten.' *Anzeiger*, 1861, p. 84. See Pfaff in *Württemb. Jahrbücher*, 1854, 2, p. 178.
11. 1436. City of Heidelberg. In use on documents from 1436 to 1501. See A. von Weech, *Siegel der badischen Städte*, pl. xviii.
12. 1440. City of Grätz. *M.C.C.* xvi, p. cxl. Cp. J. Wartinger, *Privilegien der Hauptstadt Graz* (1836), p. ii.
13. 1444. Seal of a member of the family of Riedtheim, Germ. Mus., Nürnberg. *Anzeiger*, 1859, p. 250. The name is there given as Ludwig von Rietheim, which I cannot decipher on the impression before me. Possibly the name is Ulric (Udalric), since an Udalric of Riedtheim was in existence at this time (Bucelinus, *Germania*, vol. i, under Riedtheim).
14. 1444. Seal of Monastery of Holy Trinity, Wiener Neustadt. *Jahrb. k. k. Centr.-Comm. für Erforsch. u. Erhalt. der Baudenkmale*, iii (1859), p. 238.
15. 1(44)4. Seal of city of Wetzlar, Germ. Mus., Nürnberg. 'Secretū civitatis wetzlariēsis ad causas 1[44]4.' *Anzeiger*, 1859, p. 250.
16. 1446. Seal reading 'Nicolaus Grünwalt pp. ad(?) Sot(?)'. Germ. Mus., Nürnberg. *Anzeiger*, 1859, p. 251 ('Kloster Grünwald').
17. 1446. Albert VI of Austria. *M.C.C.* xv, p. 37.
18. 1450. Seal of Imperial Landgericht (provincialis burggraviatus) in Nürnberg. Germ. Mus., Nürnberg. *Anzeiger*, 1859, p. 251. This is given (wrongly) as 1420 in *Anzeiger*, 1861, p. 230.
19. 1450+. Friedrich III. No space allowed for the fourth numeral. Cp. the book-plate of 1470 of Johannes, priest of St. Moritz in Augsburg (above, p. 20).
20. 1452. Seal of the Provincial of the Franciscan Order for Austria and Styria. *M.C.C.* xix, p. 260.
21. 1453. City of Krems. Melly, no. 46, pl. viii; *M.C.C.* xvii, p. xxiii.

## XXXI. GERMAN SEALS, 1453-1477.

1	I		3	2	4					1453
2	I			2	4					1454
3	I			2	4					1454
4	I			2	4					1454
5	I			2	4			8		1458
6	I			2	4			8		1458
7	I			2	4				9	1459
8	I			2		6				1464
9	I			22		6				1464
10	I			22		6				1464
11	I			2	4	6				1465
12	I			2		6	^			1467
13	I			2		6		8		1468
14	I			2		6			9	1469
15	I			2			^			1471
16	I	2		2			^			1472
17	I		3	2			^			1473
18	I			2		6	^			1476
19	I			2			^			1477

TABLE XXXI. GERMAN SEALS (*continued*).

1. 1453. Dominican Convent of St. Peter in Wiener Neustadt. *M.C.C.* xv, p. cxxviii.
2. 1454. City of Ulm. B.M., Birch, *Catal. of Seals*, no. 21521 (misread 1457); on a document of 1520 (B.M., Add. Ch. 26725).
3. 1454. Seal of Heinrich Mühlbach of Judenburg. *M.C.C.*, *N.F.* xxii, p. 26, fig. 18.
4. 1454. Kurfürst Friedrich I. von der Pfalz. Germ. Mus., Nürnberg. *Anzeiger*, 1859, p. 250.
5. 1458. Friedrich III. *M.C.C.* xvi, p. 31.
6. 1458. Wiener Neustadt. *M.C.C.* xvi, p. cxcv.
7. 1459. Friedrich III as Archduke of Austria. From a wax cast of an impression in the Germ. Mus., Nürnberg. Cp. the illustration in *M.C.C.* xvi, p. 23, where the 5 is drawn somewhat differently.
8. 1464. Friedrich III. *M.C.C.* xvi, p. 31.
9. 1464. City of Vienna. *M.C.C.* xi, p. xi (Beibl. no. 16).
10. 1464. City of Oppenau, in use 1474-1609. A. von Weech, *Siegel der badischen Städte*, pl. lxxxv. A later version of this seal was evidently made towards the end of the century; it bears the same date (but with the upright 4), and occurs on documents from 1499 to 1622.
11. 1465. City of Cilli. *M.C.C.* xvi, p. cii.
12. 1467. Knittelfeld. *M.C.C.*, *N.F.* iv, p. lxx.
13. 1468. Markt Aspang. *M.C.C.* xvi, p. lxii.
14. 1469. Grein. *M.C.C.* xix, p. 89. On a document of 1473. Cp. Melly, p. 71, no. 149, pl. iv.
15. 1471. Gottschee. *M.C.C.*, *N.F.* xii, p. clix.
16. 1472. Landgericht of the Grafschaft Rotenfels. *Anzeiger*, 1861, p. 83. The original matrix is in the Maximiliansmuseum at Augsburg.
17. 1473. Krautheim. In use 1503-1521. A. von Weech, *Siegel der badischen Städte*, pl. vi.
18. 1476. Gmünden. *M.C.C.*, *N.F.* iv, p. lxix.
19. 1477. Gurkfeld (Krain). *M.C.C.* v. 328. Cp. *M.C.C.* xix. 89, which is a XVI-century reproduction.

## XXXII. GERMAN SEALS, 1479-1504.

1	1			2			^		9		1479
2	7			2				8		0	1480
3	11			2				8			1481
4	1		z	4				8			1483
5	1			2	4			8			1485
6	1			2			^	8			1487
7	1			2			7	8			1487
8	1			2			7	8			1487
9	1			2				8			1488
10	1			2				8			1488
11	1			2				8	9		1489
12	1			2				8	9		1489
13	1			9				8	9		1489
14	1	Z		2					9		1492
15	7		3	2					9		1493
16	1		3	2					9		1493
17	1	2			7					0	1502
18	1		3		5					0	1503
19	1		3		5					0	1503
20	1		3		5					0	1503
21	1			2	7					0	1504

TABLE XXXII. GERMAN SEALS. (*continued*).

1. 1479. Augustin Adlof of Judenburg. *M.C.C.*, *N.F.* xxii, p. 26. On a document of 1480.
2. 1480. Amalie, Duchess of Bavaria, daughter of Friedrich the Mild. O. Posse, *Die Siegel der Wettiner*, pl. xxiii. 4.
3. 1481. Provost of Monastery of St. Nicolas in Rotenmann. *M.C.C.* xix, p. 252.
4. 1483. City of Freiburg i. Ü. *Anzeiger*, 1873, 94.
5. 1485. Rector of University of Cologne. Silver matrix in the Victoria and Albert Museum. Cp. Sibmacher, *Wappenbuch*, i. 8, Taf. XVIII, 3 (illustration inexact). The bottom stroke of the 5 is shortened by part of the design.
6. 1487. Krems. Melly, *Beiträge*, no. 48, pl. ix. Cp. *M.C.C.* xvii, p. xxiv.
7. 1487. Dominican Convent of St. Mary, Neukloster. *M.C.C.* xix, p. 246.
8. 1487. Monastery of St. Nicolas in Rotenmann. *M.C.C.* xix, p. 253.
9. 1488. City of Judenburg. *M.C.C.* xvii, p. clix. On a document of 1603, but may be contemporary with the date it bears.
10. 1488. Monastery of St. Paul in the Lavantthal. *M.C.C.* xix, p. 261.
11. 1489. Benedictine Monastery of St. Lambrecht. *M.C.C.* xix, p. 242.
12. 1489. Benedictine nunnery at Göss (Styria). *M.C.C.* xviii, p. 318.
13. 1489. City of Bautzen. Germ. Mus., Nürnberg. Misread 1444 in *Anzeiger*, 1859, p. 250. It may possibly be 1484.
14. 1492. Hans Hohewarter of Judenburg. *M.C.C.*, *N.F.* xxii, p. 26.
15. 1493. Seal of Hans Stahl of Judenburg. *M.C.C.*, *N.F.* xxii, p. 26.
16. 1493. Drosendorf. *M.C.C.*, *N.F.* iii, p. cxxiii.
17. 1502. Brilon (Westphalia). Philippi, *Westfäl. Siegel*, pl. 97. 10.
18. 1503. Frauenbrüderschaft im Spital zu Wien. *M.C.C.* xvi, p. lxii.
19. 1503. Vienna. *M.C.C.* xviii, p. 219.
20. 1503. Heidelberg. On documents from 1502 (!) to 1601. A. von Weech, *Siegel der badischen Städte*, pl. xviii.
21. 1504. Regular Canons, S. Veit, Pöllau. *M.C.C.* xix, p. 250.



## XXXIII. GERMAN SEALS, 1507-1527.

1	I			5		7			0	1507
2	I		2	5						1514
3	I			5		6				1517
4	II							99		[15]19
5	I	Z		5		1				1527

## XXXIV. GERMAN SEALS (SUPPLEMENTARY).

1	I	2		2	4					1452
2	I	2		2	7					1452
3	II			44		66				1461
4	I			2		6	1			1476
5	I			2			1	8		1478
6	I	2		2				8		1482
7	I			2				8		1484
8	I			4					9	1494
9	I			4	5				9	1495
10	I			2				8	9	1498
11	I				5				9	1519
12	I	Z	3		5					1523

TABLE XXXIII. GERMAN SEALS (*continued*).

1. 1507. Stephan Bär of Judenburg. *M.C.C., N.F.* xxii, p. 26. 2.  
 1514. Tübingen. Pfaff, *Württemb. Jahrbücher*, 1854, 2, p. 147. 3.  
 1517. Reuchen. In use 1517-1522. A. von Weech, *Siegel der badischen Städte*, pl. lx. 4. [15]19. Two seals of Hermann V, Abp. of Cologne.  
 Ewald, *Rheinische Siegel*, i, pl. xxvi. 7; xxvii. 1. 5. 1521 (or 1527).  
 Heidelberg. In use 1570-1579. A. von Weech, *Siegel der badischen Städte*,  
 pl. xlvi.

TABLE XXXIV. GERMAN ETC. SEALS (SUPPLEMENTARY).

1. 1452. Friedrich III. From a cast in the collection of the Hist.  
 Verein at Würzburg. [G. H. L.] 2. 1452. Friedrich III. From  
 a cast at Würzburg. [G. H. L.] 3. 1461. Georg von Schaumbërg,  
 bishop of Bamberg 1459-75. From impression at Würzburg. This is the  
 earliest German use of the modern 4 known to me, twenty years earlier than  
 the instance in Table X. 13. There is no doubt about the seal, of which at  
 least six impressions occur among the documents in the Würzburg archives.  
 [G. H. L.] 4. 1476. Mary of Burgundy. Equestrian seal. Cast at  
 Würzburg. [G. H. L.] 5. 1478. City of Munich. Cast at Würzburg.  
 [G. H. L.] 6. 1482. City of Dordrecht. Cast at Würzburg. [G. H. L.]  
 7. 1484. *Stigillum* priorat(us) (et?) convent(us) terre fl(u)m(ini)s(?) ord(in)is  
 h(eremitarum) S(ancti) Aug(ustini). Formerly Dimsdale Collection (Sotheby's  
*Catalogue*. June 6, 1913, lot 53). 8. 1494. City of Coburg. Cast at  
 Würzburg. [G. H. L.] 9. 1495. Carthusian Monastery at Tüchel-  
 hausen near Ochsenfurt. Cast at Würzburg. [G. H. L.] 10. 1498.  
 Bishopric of Würzburg (Lorenz von Bibra, 1495-1519). Würzburg. [G.H.L.]  
 11. 1519. Bishopric of Würzburg (Konrad von Thüngen, 1519-40).  
 Würzburg. [G. H. L.] 12. 1523. Mainz, Gild of Butchers. Cast at  
 Würzburg. [G. H. L.]

## XXXV. GERMAN: VARIOUS.

I			3	2						I434
2	I			2						I444
3	I			2		6				I446
4	I			2				8		I448
5	I	2	33	2	4	6	7	8	9	I463
6				2		6				I466
7	I	2		2					9	I491
8	I			2	5				9	I495
9	I			4					9	I499
10	I				5			8	0	I508
11	I				5		7			I517
12	J	Z			5	6				I526
13	I		3		5				0	I530
14	I		3		5					I531
15	I	22	3	2	55	6	77		0	I573
16	2				2	6			9	I596

## XXXVI. GERMAN: VARIOUS (SUPPLEMENTARY).

I	I		3	2				8		I438
2	I	22	3	2	4	6	7	8	9	I430-80
3	I	2	3	2	4	6	7	8	9	I453
4	I			2			7			I471
5	I	22	3	22	44	66	7	8	9	I481
6	I	2	3	2	4	6	7	8	9	I490
7	I	2	3	2	4	6	7	8	9	I491
8	II				4				0	I510
9	I				55					I511

TABLE XXXV. GERMAN: VARIOUS.

1. 1434. 'Anno doi milesimo cccc 34'. Window in St. Leonhard's, Tamsweg. *M.C.C.* xix, pp. 77, 80. 2, 4. 1444, 1448. On a stole and pallium, with the motto of Friedrich III, at Tököle. *M.C.C.*, *N.F.* vii, pp. 72, 73. 3. 1446. Bell at Neuberg. *M.C.C.*, *N.F.* xxiii, p. 122. The date 1440 occurs on a bell in the church ad S. Ioannem decoll. in Zeben (*M.C.C.* xvii, p. iii). 5. 1463. Figures and date on a portable sundial found at Hörnstein, Lower Austria. *M.C.C.* xvi, p. clxxx. 6. 1466 (M466). On the bottom of a paten. *Anzeiger*, 1861, p. 190. 7. 1491. Mark on the eagle of the Merchants' Schützengild of Breslau. *M.C.C.* vii, p. 52. 8. 1495. Pall of the Holzschuhers, in the Germanisches Nationalmuseum, Nürnberg. *Mitt. Germ. Mus.* 1895, p. 99. 9. 1499. On sword of the Hochmeister Siebenhirter of the Order of St. George. *M.C.C.* xviii, pp. 310 (fig. 11), 315. 10. 1508. Bell in St. Michael's Chapel, Rankweil. *M.C.C.*, *N.F.* xxi, p. 241. 11. 1517. Glass-painting in the Germanisches Nationalmuseum, Nürnberg. *Katalog*<sup>2</sup> (1898), no. 260, p. 33 and pl. xi. 12-14. 1526, 1530, 1531. German pottery (plates in the Germanisches Nationalmuseum). *Anzeiger*, 1875, p. 238. 15. 1573. Date and figures on a metal gauge in the British Museum. A late survival of the old 4. 16. 1596. German pottery. *Anzeiger*, 1875, p. 268. Very similar forms occur on a plate dated 1593, *ibid.*

TABLE XXXVI. GERMAN: VARIOUS (SUPPLEMENTARY).

1. 1438. Zürich, Landesmuseum (formerly Angst Collection). Fragment of glass pane, with imperial eagle between shields of Hungary and Austria. [Drawing by P. G.] 2. 1430-80? Brass dial, square, and disc. Collection of Mr. Lewis Evans. 3. 1453. Portable brass sundial in British Museum. 4. 1471. Copper-gilt Reliquary in Victoria and Albert Museum, No. 780-1891. [Rubbing from Mr. H. P. Mitchell]. 5. 1481. South German sun-dial. Collection of Mr. Lewis Evans. 6. 1490. Brass astrolabe; figures stamped. Collection of Mr. Lewis Evans. 7. 1491. Viennese astrolabe in the British Museum, made by 'Pruder Hanns Dorn Prediger Orden von Wien anno Domini 1491.' 8. 1510. Bern Museum. Glass pane, with Englisberg arms. [Drawing by P. G.] 9. 1511. On copper salt standard measures, Würzburg Museum. [Tracing by G. H. L.]

## XXXVII. GERMAN PAINTINGS, 1435-1508.

1	I		3	2	2					1435?
2	I			2		6				1446
3	I			2				9		} 1449
4	I			2				9		
5	I		3	2				8		1483
6	I			2		7		2		1487
7	T			2				8		1488
8	II			2					9	1491
9	I		3	2					9	1493
10	I			4				8	9	1498
11	I	2		44					99	1499
12	I		3		5				0	1503
13	I			4	5				0	1504
14	I				5	6			0	1506
15	I				5	6			0	1506
16	I				5		1		0	1507
17	I				5		7		0	1507
18	I 7				7 7		1 1		0	1507
19	I				3		1		0	1507
20	I	2			7 7			8	D	1508
21	I				5			8	0	1508



## TABLE XXXVII. GERMAN PAINTINGS, 1435-1508.

1. 1435. Altar-piece by Lukas Moser at Tiefenbronn. *Anzeiger*, 1861, pp. 49 and 83; *Jahrb. der kunstgesch. Gesellsch. f. fotogr. Publikationen*, v (1899). It has been read 1431 and even 1451; the latter is highly improbable. If the artist wished to vary the form of his 1, he would be more likely to ornament the numeral on its first than on its second occurrence; the first numeral is often decorated, like an initial letter. The fourth numeral here is thus probably not 1, and it can hardly be anything but 5. 2. 1446. Heraldic painting ('Handregistratur' of King Friedrich IV), Vienna. Ströhl, *Herald. Atlas*, pl. xxviii. 3, 4. 1449. D. Pfenning. Vienna, 1396. 5. 1483. Hungarian School. Budapest, 9. 6, 7. 1487, 1488. Paintings on side-altars in St. Martin's Chapel near Ludesch. *M.C.C., N.F.* xviii, p. 236. 8. 1491. Monogrammist R. F. Vienna, 1398. 9. 1493. Dürer. Portrait of himself, formerly in the Felix Collection. Cust, *Dürer Engravings*, p. 21. 10. 1498. Dürer. Portrait. Prado. 11. 1499. Dürer. Portrait of Hans Tucher. Grand-Ducal Museum, Weimar. From Dürer Society's Reproduction. 12. 1503. Dürer. Vienna, 1442. 13. 1504. Lucas Cranach the Elder. Berlin, 564 A. 14. 1506. Dürer. Berlin, 557 F. 15. 1506. Dürer. Dresden, 1870. 16. 1507. Dürer. Vienna, 1444. 17. 1507. Dürer. Berlin, 577, 1. 18. 1507. Albrecht Altdorfer. Berlin, 638. The date occurs twice on the picture. 19. 1507. Albrecht Altdorfer. Berlin, 638 A. Note the 3-like form of 5. 20. 1508. Meister des Marienlebens. Cologne, 141. 21. 1508. Dürer. Vienna, 1446.

## XXXVIII. GERMAN PAINTINGS, 1509-1529.

1	I				5				9	0	1509
2	II				5					0	1510
3	III				5						1511
4	III				5						1511
5	III				5						1511
6	III				5						1511
7	II	2			5						1512
8	II	2			5						1512
9	II	2			5						1512
10	II			2	5						1514
11	I			4	5						1514
12	I				55						1515
13	I				55						1515
14	II				77						1515
15	II				5	6					1516
16	II				5				9		1519
17	I	2			5					0	1520
18	I	2			5	6					1526
19	I	2			5			8			1528
20	I	2			5			8			1528
21	I	2			5				9		1529

TABLE XXXVIII. GERMAN PAINTINGS (*continued*), 1509-1529.

1. 1509. Hans Schäuffelein. Portrait. German. Mus., Nürnberg. *Mitt. Germ. Mus.*, 1895, p. 65.
2. 1510. H. Schäuffelein. Prag, 609.
3. 1511. Hans Burgkmair. Berlin, 584.
4. 1511. Hans von Kulmbach. Berlin, 596 A.
5. 1511. H. Schäuffelein. Berlin, 560.
6. 1511. Dürer. Vienna, 1445.
7. 1512. Dürer. Vienna, 1447.
8. 1512. Baldung. Berlin, 603.
9. 1512. Jörg Breu. Berlin, 597 A.
10. 1514. Monogrammist I. M. Prag, 177.
11. 1514. Hungarian School. Budapest, 5.
12. 1515. Altdorfer. Vienna, 1422.
13. 1515. Baldung. Vienna, 1424.
14. 1515. L. Cranach the Elder. Vienna, 1453.
- In spite of the difference between the second and fourth numeral, both probably represent 5.
15. 1516. Baldung. Prag, 27.
16. 1519. Dürer. Vienna, 1443.
17. 1520. Hans Brosamer. Vienna, 1477.
18. 1526. Dürer. Vienna, 1448.
19. 1528. L. Cranach the Elder. Stockholm, 1080.
20. 1528. Wolf Krodel. Vienna, 1472.
21. 1529. Ruprecht Heller. Stockholm, 272.

## XXXIX. GERMAN PAINTINGS (SUPPLEMENTARY).

1		2		3	7					145
2	I			2	6		7			145
3	)			2	5		Λ			145
4	I			2	5			8		145
5	I			2		6			0	146
6	J		3	2				8		148
7	I				5		1		0	150
8	II	2			4				0	151

## XL. GERMAN MEDALS.

1	I			2				9		1499
2	I				5		Λ		0	1507
3	I				5			8	0	1508
4	I	2			5					1512
5	I			4	5					1514
6	I	2		2	5					1524

## TABLE XXXIX. GERMAN PAINTINGS (SUPPLEMENTARY).

1. 1452. German painting (1580-'5; *Annunciation*) in the Victoria and Albert Museum. Communicated by Mr. Eric Maclagan. The date is written on a slant. It has generally been read 1472, but there can be no doubt that the figure which has been taken for a 7 is a 5. 2. 1457. Lyons Museum. [Drawing by G. B. C.-L.] 3. 1457. Basel Museum, no. 473. [Drawing by E. M.] 4. 1458. Basel Museum, no. 465. [Drawing by E. M.] 5. 1460. Constanx, portrait of Blarer. 6. 1483. Munich. Burgkmair, portrait of Martin Schongauer. 7. 1507. Augsburg. Burgkmair, Coronation of the Virgin. 8. 1511. Basel Museum, no. 21. [Drawing by E. M.]

## TABLE XL. GERMAN MEDALS.

1. 1499. Ladislaus II of Hungary. Domanig, *Die deutsche Medaille*, No. 6. 2. 1507. Albert IV of Bavaria. Domanig, no. 32, pl. iv. 3. 1508. Michael Wolgemut, attributed to Dürer. The date was incised in the model. Rosenheim Collection. 4. 1512. Friedrich, Duke of Saxony. The date has the appearance of being punched in. Rosenheim Collection. 5. 1514. 'Dürer's Father,' attributed to Dürer. Rosenheim Collection. 6. 1524. Magdeburg, Cardinal Albert of Brandenburg.



## XLI. GERMAN PRINTED BOOKS, WOODCUTS, ETC.

1	1			22		6					1464
2	3			2			Λ			0	1470
3	31	2	3	2	7	6	Λ	8	9	0	1470
4	11			2			Λ				1471
5	1	22	3	2	4	6	Λ	8	99	0	aft. Oct. 1473
6	1	2	3	2	44	6	Λ	8	9	0	1474
7	1	2	33	2	47	6	Λ	88	9	0	1477
8	1	22	3	2	5	6	7	8	9	0	1479
9	11			2				8			1481
10	1	2		2				8			1482
11	11	22	33	44	55	66	77	88	99	0	1488
12	1			4		6			9		1496
13	1			2					99		1499
14	1			2					9		1499
15	1			4					9		1499
16	1	2	3	4	5	6	7	8	9	0	1500
17	1	22	3	24	5	6	Λ	8	9	0	1503
18	1			4	5					0	1504
19	11	2	33	24	55	66	77	88	99	0	1507
20	1				5			8		0	1508

## XLII. GERMAN ENGRAVINGS (SUPPLEMENTARY.)

1	1			2		6					1466
2	11			222		66	ΛΛ				1467
3	111	222	33	22	22	666	ΛΛ	88	99	00	} c. 147
	111	222	3	22	22			88	99	0	

TABLE XLI. GERMAN PRINTED BOOKS, WOODCUTS, ETC.

1. 1464. Woodcut. Dodgson, *Catalogue of Early German and Flemish Woodcuts in the British Museum*, i (1903), A. 25.
2. 1470. Block-book, *Biblia Pauperum*. (B.M., I B. 3.)
3. 1470. Rolewinck, *Sermo in festo praesentationis beate Marie Virginis*. Cologne. (B.M., I A. 3102.) The first figure 1 is of course merely a capital letter I.
4. 1471. Block-book, *Biblia Pauperum*. (B.M., I C. 5.)
5. 1473 (after October). *Fasciculus Temporum*. Cologne. (B.M., I B. 3805.)
6. 1474. Regiomontanus, *Nürnberg*. (B.M., I A. 7888.)
7. 1477. *Fasciculus Temporum*, Cologne. (B.M., I B. 3128.)
8. 1479. *Fasciculus Temporum*. Cologne. (B.M., I C. 4371.)
9. 1481. Woodcut by Hans Schauer. Dodgson, *Catalogue*, i, A. 120.
10. 1482. Woodcut. Dodgson, *Catalogue*, i, A. 123; Schreiber, *Manuel*, 1881.
11. 1488. Woodcut in Augsburg Boethius. D. E. Smith, *Rara Arithmetica*, p. 26.
12. 1496. Woodcut: Andechs or Munich. Dodgson, *Catalogue*, i, p. 120. 128.
13. 1499. Woodcut by Mair of Landshut. Dodgson, *Catalogue*, i, p. 149. 145.
14. 1499. Woodcut by Mair of Landshut. Dodgson, *Catalogue*, i, p. 149. 143.
15. 1499. Woodcut by Burgkmair. Schreiber, *Manuel*, 2022; *Catal.* 40, pl. xv.
16. 1500. Johann Widman, *Behennd vnd hüpsch Rechnung* (Commercial Arithmetic). Pforzheim. D. E. Smith, *Rara Arithm.*, p. 37.
17. 1503. From Reisch, *Margarita Philosophica*. Freiburg, 1503. Woodcut title-page.
18. 1504. Dürer. *Nativity* (B. 2).
19. 1507. Woodcut in the 1507 *Algorithmus* (Leipzig). D. E. Smith, p. 88.
20. 1508. Dürer. Copper engraving. St. George on Horseback.

TABLE XLII. GERMAN ENGRAVINGS (SUPPLEMENTARY).

1. 1466. Master E. S. See Lehms, *Gesch. u. krit. Katalog des deutschen . . . Kupferst. im XV. Jahrh.*, IIter Tafelband, no. 220, Taf. 85.
2. 1467, Master E. S. See Lehms, *ibid.*, nos. 223, 226, 231-233.
3. circa 1470. *Ars Memorandi* block-book. A. Pilinski, *Mon. de la Xylographie*, iii.

## XLIII. GERMAN ETC. COINS, 1456-1499.

1	I			2	7	6				1456
2	I			2	7		^			1457
3	I			2	7			8		1458
4	I			2	7				9	1459
5	I			2		6	^			1467
6	I			2		6		8		1468
7	II			2			^		00	1470
8	I			2			^			1471
9	I							8		[14]8
10		Z						8		[14]8
11			3					8		[14]8
12	I			2				8		1488
13	I			2					9	1491
14	I	Z		4				9		1492
15	I			2				9		1499

## TABLE XLIII. GERMAN ETC. COINS, 1456-1499.

(For casts of the specimens nos. 1, 3-7, 9-12, which are in the Vienna Cabinet, I have to thank Ritter August von Loehr; for that of no. 14, Dr. Menadier).

- |  |   |   |
|--|---|---|
| 1. 1456. Austria.  | 2. 1457. Wilhelm III of Saxony. H. Buchenau in <i>Blätter für Münzfreunde</i> , Tafel 163, nos. 14, 15. | 3. 1458. Austria.   |
| 4. 1459. Austria.  | 5. 1467. Austria.   | 6. 1468. Austria.   |
| 7. 1470. Austria (Vienna and British Museum).                            | 8. 1471. Austria (British Museum).  | 9. (14)81. Austria.   |
| 10. (14)82. Austria.   | 11. (14)83. Austria.  | 12. 1488. René II of Lorraine, silver écu. The cast shows that De Saulcy ( <i>Recherches sur les Monnaies des Ducs héréditaires de Lorraine</i> ), pl. xiii. 1, has wrongly substituted the modern form of 4 for the old one. |
| 13. 1491. Johann, Elector of Trier. <i>Monnaies en or</i> , Suppl. p. 6. | 14. 1492. René II of Lorraine. Gold ducat at Berlin. De Saulcy, <i>op. cit.</i> , pl. xii. 14.          | 15. 1499. Ladislas II of Hungary. <i>Monnaies en argent</i> , p. 149.   |

## XLIV. GERMAN COINS, 1484-1504.

1	1		4			8		1484 Austria.
2	1		4	6		8		1486 Austria.
3	1		2			8	9	1489 Hungary.
4	1		4			8	2	1489 Cologne.
5	1	2	2				9	1492 Frankfurt a. M.
6	1	2	2				2	1492 Aachen.
7	1		2		Λ		9	1497 Brandenburg- Anspach.
8	1		2				2	1499 Bremen.
9	1			7			0	1500 Jülich u. Berg.
10	1			5			0	1501 Brandenburg- Anspach.
11	1	2		7			0	1502 Lübeck.
12	1		2	7			0	1504 Mainz.
13	1		2	5			0	1504 Hesse.
14	1		4	5			0	1504 Brandenburg- Anspach.
15	1		2	5			0	1504 Salzburg.

All from specimens in the British Museum, except no. 15, which is: 1504. Salzburg, Archbishop Leonhard. *Blätter f. Münzfreunde*, 1909, pl. clxxxiv. 5.



## XLV. GERMAN COINS, 1505-1514.

1	I				5					○	1505 Hungary.
2	I				7	6				○	1506 Goslar.
3	I				5	6				○	1506 Bavaria.
4	I				5	6				○	1506 Baden.
5	I				5	6				○	1506 Lübeck.
6	I				7		7			○	1507? Hungary.
7	I				5		>			○	1507 Frankfurt a. M.
8	I				5			8		○	1508 Isny.
9	I				7						1511 Bremen.
10	I	5			7						1512 Münsterberg.
11	I	Z			5						1512 Lorraine.
12	I		z		5						1513 Salzburg.
13	I			2	5						1514 Hungary.
14	I			4	5						1514 Nördlingen.

All from specimens in the British Museum, except nos. 2 (from a photograph), 8 (from *Anzeiger*, 1861, 232), and 11 (from a specimen in Mr. Maurice Rosenheim's collection).

## XLVI. SWISS COINS.

1	J	2		X						1424 St. Gall
2	I			Q				?		1491 Basel.
3	I	Z		Q				?		1492 Basel.
4	I	Z		4				9		1492 Bern.
5	I		3	Q				?		1493 Basel.
6	I		3	4				9		1493 Bern.
7	I			X 4				9		1494 Bern.
8	I			4			S	9		1498 Sitten.
9	I			Q				9		1499 Basel.
10	I				5				O	1501 Bern.
11	I			X	5				O	1504 St. Gall
12	I				5				O	1505 St. Gall
13	I	2			5					1512 Zürich.
14	I I				5	6				1516 Basel.
15	I	2			5		7			1527 St. Gall
16	I	Z			2			8		1528 Sitten.
17	J	Z	3		3					1532 Schaff- hausen.

All from specimens in the British Museum.

## XLVII. LOW COUNTRIES: COINS, 1474-1482.

1	!		⧫ ⧫		^			1474
2	!		⧫		^			1474
3	!		⧫ 9		^ ^			1474
4	!		⧫ ⧫	Σ 4	^ ^			1475
5	!		⧫	5	^			1475
6	!		⧫	4	^			1475
7	!		⧫	6	^			1476
8	!		⧫		^			1477
9	!		⧫		^			1477
10	!		⧫		7	8 8		1478
11	!		⧫ ⧫		^ 7	8 8		1478
12	!		⧫		7		9	1479
13	!		8			8	0	1480
14	!		4			8	0	1480
15	!		4			8		1481
16	!	2	⧫			8		1482

From coins in the British Museum, supplemented by illustrations in Van der Chiis.

1, 4, 8, 10 are from coins of Flanders. 2, 5, 7, 9, 11, 16 are from coins of Brabant. 3, 6, 13 are from coins of Gelderland. 12, 14, 15 are from coins of Holland.

## XLVIII. LOW COUNTRIES: COINS, ETC.

1482-1490.

1	1	Z		2			8		1482
2	1		3	8			8		1483
3	1		3	2			8		1483
4	1		3	2			8		1483
5	1			2	5		8		1485
6	1			2	7		5		1485 or 1487
7	1			2	2	^ 7	8 8		1487
8	1			2		V ^	8		1487
9	1			2		^	8		1487
10	1			2		^	8		1487
11	1			2			8		1488
12	1			2			8		1488
13	1			2			8	9	1489
14	1			2			8	9	1489
15	1			2				9	0 1490
16	1			4				9	0 1490

## TABLE XLVIII. LOW COUNTRIES: COINS, ETC.

From coins in the British Museum, supplemented by illustrations in Van der Chiis.

1, 4, 6 are from coins of Utrecht. The last might possibly be read 1487, but the distinct curve in the tail of the doubtful figure suggests that we have an analogy to the German 5; in other cases (as Table L. 2 and 6) the form of 5 is still nearer to the modern 7. Compare also the Gelderland forms, Tables XLIX. 15 and L. 16. 2, 7, 14 are from coins of Brabant. 3, 5, 9, 11, 13 are from coins of Holland. 8, 15 are from coins of Friesland. 10 is from a coin of Gelderland. 12, 16 are from Flemish jetons.



## XLIX. LOW COUNTRIES: COINS, ETC., 1491-1505.

1	1			2				9		1491
2	1	Z		2				9		1492
3	1	Z		4				9		1493
4	1	Z		2				9		1494
5	1			2				9		1495
6	1			2				9		1496
7	1			2	4			9		1497
8	1			2		6		9		1498
9	1			4			Λ	9		1499
10	1			2 4			7	9		1500
11	1			4				9		1501
12	1			2				9		1502
13	1			2				9 9		1503
14	1				5				0	1504
15	1				7				0	1505
16	1	Z			3				0	1506
17	1			2	3				0	1507
18	1				5				0	1508
19	1				5 5				0	1509
20	1				4				0	1510
21	1				5				0	1511

## TABLE XLIX. LOW COUNTRIES: COINS, ETC.

From specimens in the British Museum, supplemented by Van der Chiis.

1. Medal of Archbishop Schevez of St. Andrews. The general belief that this medal is of Flemish origin is confirmed by evidence brought together by Dr. R. F. Burckhardt of Basel, in the *Anzeiger für schweizerische Altertumskunde*, N.F. xiii, pp. 42-46. Schevez was out of Scotland, on a journey to Rome, at the time the medal was made. 2, 15 are from coins of Gelderland. For the 'German' 5 in the latter compare Table XLVIII. 6. 3, 5, 9 are from coins of Utrecht. 4, 8, 10, 20, 21 are from jetons. In No. 10 the two forms of 4 are not on the same piece, but on two different jetons of the same year. 6 is from the Montagu specimen of the so-called 'Perkin Warbeck groat', which, there can be little doubt, was struck in Flanders, and is not a coin, but some sort of jeton. Franks and Grueber, *Medallic Illustrations*, i, p. 21, no. 3. 7, 12 are from coins of Holland. 11, 19 are from coins of Friesland. 13, 14, 17, 18 are from coins of Brabant. 16 is from a coin of Luxemburg.

## L. LOW COUNTRIES: COINS, ETC., 1506-1596.

1	I				4	6			0	1506
2	I				7		Λ		0	1507
3	I				5		7		0	1507
4	I				5			9	0	1509
5	II				4			9	0	1509
6	I				7				0	1510
7	I	Z			4					1512
8	I	2			5					1512
9	I	2			4					1512
10	I		3		5					1513
11	I		3		5					1513
12	I			2	5					1514
13	I				5					1515
14	I				5		7			1517
15	II				5			8		1518
16	I	Z			7				0	1520
17	I	Z			4					1521
18	I	2			5					1525
19	I	Z			4					1525
20	I			4	4					1544
21	I			4	2	6				1546
22	I				5	6		9		1596

## TABLE L. LOW COUNTRIES: COINS, ETC.

From specimens in the British Museum, supplemented by Van der Chiis.

1, 4, 7, 12, 14 are from coins of Brabant.      2, 6, 8 are from coins of Utrecht. The form of 5 on nos. 2 and 6 has already been noticed (Table XLVIII. 6).      3, 5, 9, 11, 13, 15, 17-22 are from jetons. The last is given as an instance of a form of 5 which might easily be mistaken for 3. 10, 16 are from coins of Gelderland, the latter showing the 'German' 5.

## LI. LOW COUNTRIES: PAINTINGS.

1	1 1	2	3	8					0	1432
2	1	2	3							1433
3	1		3	8 8						1434
4	1 1		3 3	8			8			1438
5	1			8	6					1446
6	7	2		8	6					1462
7	1			8		8				1474
8	1 1			4	5					1514
9	1 1				5	6				1516
10	1	2	3		5					1523
11	1	2			4		8			1528

## LII. LOW COUNTRIES: PAINTINGS (SUPPLEMENTARY).

1	1			4	8					1451
2	1			4		8	8			1487

## LIII. FRENCH MEDALS.

[1	1			4	5		8			1485]
2	1			8		6	8			1486
3	1		3	4				9		1493
4	1			4				9		1494
5	1			4				9		1499
6	1	2			5					1512
7	1	2			5					1512
8	1				5		8			1518



TABLE LI. LOW COUNTRIES: PAINTINGS.

1. 1432. 10 Oct. Jan van Eyck. National Gallery, 290. 2. 1433. Jan van Eyck. National Gallery, 222. The date is written  $M^oCCCC^o.33^o.21$  Oct. 3. 1434. Jan van Eyck. National Gallery, 186. 4. 1438. 31 Januarii. Jan van Eyck. Berlin, 528. 5. 1446. Petrus Cristus. Portrait of Edward Grimston, at Gorhambury. *Archaeologia*, xl, p. 459. 6. 1462. Flemish School. Portrait of a man. National Gallery, 943. 7. 1474. Flemish School. Martyrdom of St. Erasmus. Library of Soc. of Antiquaries. Scharf's *Catal.*, p. 13 f. 8. 1514. Atelier of Quentin Matsys. Stockholm, 505. 9. 1516. Gossart. Berlin, 648. 10. 1523. Jacob van Utrecht. Berlin, 623 A. 11. 1528. Jan van Rillaer. Berlin, 1630.

TABLE LII. LOW COUNTRIES: PAINTINGS (SUPPLEMENTARY).

1. 1451. Flemish painting (Angel of the Annunciation), in 1910 in the possession of the Spanish Art Gallery. Although the forms seem flatly to contradict most of the other Flemish evidence, I have included this example. The picture came from Spain. Communicated by Mr. E. Maclagan. 2. 1487. Memlinc, Uffizi 769. [Baron C. A. de Cosson.]

TABLE LIII. FRENCH MEDALS.

1. 1485. Aymar de Prie. From the Paris specimen. I have placed this among the French medals, although it has some affinities with N. Italian work. But I can find no evidence of Aymar de Prie's having visited Italy so early as 1485. The medal has been attributed to a later date, and I am less inclined than I was in the first edition of these tables to agree with Friedländer (*Die geprägten Medaillen*, p. 15) that it was struck so early as 1485. 2. 1486. Charles de Bourbon. British Museum. Cast. 3. 1493. Charles VIII and Anne de Bretagne. British Museum. Struck at Lyons; the work of Louis Lepère, Nicolas de Florence, and Jean Lepère. 4. 1494. Medal issued at Vienne on the birth of the Dauphin, Charles-Orland. See Heiss, *Niccolò Spinelli*, etc., p. 53; Mazerolle, *Les Médailleurs français*, pl. ii. 5. 1499. Lyons medal of Louis XII and Anne de Bretagne. Cast. 6. 1512. François I. *Trésor de Numismatique, Méd. fr.* i, pl. x. 1. Possibly not French. 7. 1512. Florimond Robertet. *Op. cit.* i, pl. xliii. 3. Possibly not French. 8. 1518. Medals of Jacques de Vitry, Pierre Girard de Rhodéz, Jean de Talaru, Antoine de Toledo. British Museum, etc. All misread 1515 by some old writers, owing to the peculiar shape of the 8.

## LIV. ITALIAN PAINTINGS, 1472-1516.

1	I	2		4			7			1472
2	I		3	4			7			1473
3	I			44			7			1474
4	I			4	5		7			1475
5	I			4			77			1477
6	I			4			7			1477
7	I			4	5			8		1485
8	I			4			7	8		1487
9	I			4				8	9	1489
10	I			4		6			9	1496
11	I			4			7		9	1497
12	I			4			7		9	1497
13	I			4					9	1499
14	I	Z			5					1502
15	I	2			5					1502
16	II				5					1510
17	II				5					1511
18	II				5					1511
19	I				55					1515
20	II				55					1515
21	I				5	6				1516

## TABLE LIV. ITALIAN PAINTINGS.

1. 1472. Carlo Crivelli. Virgin and Child. R. H. Benson Collection. *Catal. of the National Loan Exhibition*, 1909-10, no. 71.
2. 1473. Giov. Boccato (Umbrian School). Budapest, 74.
3. 1474. Antonello da Messina. Berlin, 18A.
4. 1475. Antonello da Messina. Louvre, 1134.
5. 1477. Antonello da Messina. National Gallery, 1166.
6. 1477. Bartolommeo Vivarini. Vienna, 10.
7. 1485. Bartolommeo Vivarini. Berlin, 1160.
8. 1487. Bonsignori. National Gallery, 736.
9. 1489. Francesco Tacconi. National Gallery, 286.
10. 1496. Carpaccio. Vienna, 7.
11. 1497. Niccolò da Foligno. Budapest, 82.
12. 1497. Ant. da Carpi. Budapest, 123.
13. 1499. Macrino d'Alba. Imbert Collection, *Burlington Magazine*, May, 1909, p. 115. This is not, as there stated, a portrait of the painter, the inscription implying the very contrary.
14. 1502. Lorenzo Costa. Berlin, 112.
15. 1502. Francesco Francia. Berlin, 122.
16. 1510. Florentine: atelier of San Marco. Vienna, 38.
17. 1511. Fra Bartolommeo. Borghese Gallery, 310. From Lafenestre.
18. 1511. Andrea Solario. Borghese Gallery, 461. From Lafenestre.
19. 1515. Basaiti. Vienna, 1.
20. 1515. Panel (marriage tray) in Victoria and Albert Museum. Madonna and Child and two angels.
21. 1516. Fra Bartolommeo. Vienna, 41.

## LV. ITALIAN PAINTINGS (SUPPLEMENTARY), 1374-1512.

1	I		J	9			7				1374
2	I		3	4							1443
3	I			4			7				1477
4	I			4			7	8			1478
5	I	2		4				8			1482
6	I			4				X			1482
7	I	Z		4				8			1482
8	I			4				8			1484
9	I			4			7	8			1487
10	I			4				8			1488
11	I	Z			5					0	1502
12	I				5		7			0	1507
13	I	Z			5						1512

LVI. ITALIAN PAINTINGS (*continued*), 1521-1531.

1	11	2			8						1521
2	I	22		4	5						1522
3	I	2	3		5						1523
4	I	Z			5	6					1526
5	11		3		5						1531

TABLE LV. ITALIAN PAINTINGS (SUPPLEMENTARY).

1. 1374. Barnaba da Modena. Panel in National Gallery. *Burlington Magazine*, Nov. 1913. (Vol. xxiv. p. 66.) 2. 1443. Giovanni and Antonio da Murano. Altar-piece in San Zaccaria, Venice. The inscription has been retouched. [G. B. C.-L.] 3. 1477. Carlo Crivelli. Louvre, no. 1268. San Jacopo della Marca. 4. 1478. Bartolommeo Vivarini. S. Giovanni in Bragora, Venice. 5. 1482. Bart. Vivarini. Frari, Venice. 6. 1481. Carlo Crivelli. Brera, no. 201. 7. 1482. Carlo Crivelli. Madonna. Lateran. 8. 1484. Bonsignori, Madonna in Verona Gallery. [G. B. C.-L.] 9. 1487. Giov. Bellini. Accademia, Venice. 10. 1488. Giov. Bellini. Frari, Venice. 11. 1502. Ambr. Bevilacqua. Brera, no. 255. 12. 1507. Palmezzano. Formerly in Butler Collection. Christie's Catalogue, May 25, 1911, lot 60. 13. 1512. Franc. Tatti. Nancy Gallery, 55. See Perdrizet in *Ann. de l'Est*, N. S., 1910 (Bibliographie Lorraine).

TABLE LVI. ITALIAN PAINTINGS (*continued*).

1. 1521. Lorenzo Lotto. Berlin, 325. A similar form of 5 occurs on Venetian medals (Table LIX. 11-14). Its origin is seen in forms like those on no. 20 of Table LIV. 2. 1522. Franciabigio. Berlin, 245. 3. 1523. Andrea del Sarto. Portrait of himself. Panshanger. [National Loan Exhibition, 1909-10, no. 45.] 4. 1526. Mazzolino. Vienna, 88. 5. 1531. Lorenzo Lotto. Berlin, 323.



## LVII. ITALIAN MAJOLICA.

	1	2	3	4	5		7	8	9	0	mid. X
1	I	22	3	4	5			8	99	0	mid. X
2	I			4			Z	8			1487
3	I			4				X	2		1489
4	I			4					2		1491
5	I		3	4					2		1493
6	II		3		5		7			0	1503
7	II	2			5			8		0	1508
8	I				5				9	0	1509
9	I		3		5						1513
10	I	2	3		5					0	1513
11	II				5			8			1518
12	I	2		4	5						1524
13	I	2			5	6					1526
14	I	2			5			8			1528
15	I	2			5			8			1528
16	I		3		5					0	1530

TABLE LVII. ITALIAN MAJOLICA.

(See also Table LXIV, nos. 1, 14, 15.)

1. Mid. XV. cent. Majolica roundels of the Months, by Luca della Robbia, in the Victoria and Albert Museum. These show the characteristic Italian forms of the time. The figures in July are restored, and the fraction may possibly have once been  $\frac{2}{3}$ . My attention was called to these by Mr. E. D. MacLagan, who informs me that the roundels must date before about 1460, or 1464 at the latest.
2. 1487. Faenza. Fortnum, *Majolica*, p. 88. See also Molinier, *La Céram. ital. au XV<sup>e</sup> siècle*, p. 47. This is the date of the paving-tiles of S. Petronio at Bologna.
3. 1489. Forlì. Plaque in Victoria and Albert Museum (490. '64).
4. 1491. Faenza. Fortnum, p. 92.
5. Gubbio plaque by Giorgio Lombardo, in the British Museum.
6. 1503. Faenza. Fortnum, p. 109.
7. 1508. Castel Durante. Fortnum, p. 49.
8. 1509. Caffaggiolo. Fortnum, p. 3.
9. 1513. Faenza. Fortnum, p. 117.
10. 1513. Tile in the British Museum. Wallis, *Italian Ceramic Art: the majol. pavement tiles of the fifteenth century*, fig. 91.
11. 1518. Gubbio. Fortnum, p. 28.
12. 1524. Gubbio. Fortnum, p. 30.
13. 1526. Gubbio. Fortnum, p. 34.
14. 1528. Gubbio. Fortnum, p. 36. Anywhere but in Italy, this might possibly be 1524, the 4 being inverted. But a badly made o is not out of the question.
15. 1528. Gubbio. Fortnum, p. 33.
16. 1530. Gubbio. Fortnum, p. 36.

## LVIII. ITALIAN MEDALS, ETC., 1390-1497.

1	I		}					2	○	1390
2	I		}					9		1393
3	I			4			7			1417
4	I			4		6				1446
5	I			4			7			1447
6	I			4				8		1448
7	I							9		c. 1460
8	I			4		6				1461
9	I			4		6				1464
10	I			4			7		○	1470
11	I	Z		4			7			1472
12	I			8			^	9		1479
13	I			8			7	9		1479
14	I			4				8		1481
15	I			4				8		1481
16	I			4	5			8		1485
17	I			4	5			8		1485
[18	I			4				8	9	1489]
19	I			4	5			9		1495
20	J			4			7	9		1497

## TABLE LVIII. ITALIAN MEDALS, ETC., 1390-1497.

1. 1390. Medal of Francesco Carrara. *Periodico di Numismatica*, i, pl. vii. 5. Struck.
2. 1393. Venetian medal, by Marco Sesto. *Op. cit.* i, pl. vii. 1. Struck.
3. 1417. Venetian tessera, by Alessandro Sesto. *Op. cit.* i, pl. vii. 3. Struck.
4. 1446. Sigismondo Malatesta, by Matteo de' Pasti. British Museum.
5. 1447. Isotta Atti, by Matteo de' Pasti. Incised on the model; the 1 is obscure. Heiss, *Les Médailleurs de la Renaissance*, Alberti, pl. viii. 4.
6. 1448. Antonio Marescotti, by Marescotti. Heiss, *Marescotti*, etc., pl. ii. 2. Incised on the model. There is no reason to doubt its contemporaneity.
7. c. 1460. Antonio Roselli, by Bartolommeo Bellano. From the British Museum specimen. The figures 91 cannot indicate Roselli's age if, as seems to be the fact, he died, aged 85, on Dec. 10, 1466. See Semrau, *Donatello's Kanzeln*, p. 151.
8. 1461. Taddeo Manfredi, by Enzola. From the British Museum specimen.
9. 1464. Paul II. From the Paris specimen. Although this medal is made from one of Paul's medals of 1455, when he was Cardinal of San Marco, by reworking the model, there is no reason to suppose that it is not contemporary with the date which it bears.
10. 1470. Galeazzo Maria Sforza, perhaps by Caradosso. Friedländer, *Ital. Schaumünzen*, pl. xxxvi. 11.
11. 1472 Ercole I d'Este, by Baldassare Estense. Heiss, *Niccolò*, etc., pl. v. 1.
- 12, 13. 1479. Medals by Candida of Jehan Miette and Jean Carondelet respectively. The occurrence of the old form of 4 on these medals by an Italian is explained by their having been made at Lille and Paris. The same fact accounts for the old 7 on no. 12. But the new 7 occurs on no. 13; compare the variation on the coins of the Low Countries about this time, Table XLVII. 9 ff.
14. 1481. Alfonso, Duke of Calabria, by Guazzalotti. Heiss, *Florence*, i, pl. iii. 5.
15. 1481. Mahomet II, by Costanzo da Ferrara. British Museum.
16. 1485. Bernardo Gambara. Roman School. Rosenheim Collection.
17. 1485. Fabrizio Marliano. From the Berlin specimen.
18. 1489. Pietro Vettori. Heiss, *Florence*, i, p. 45, after Litta. This should be corrected by Table LXIV. 19.
19. 1495. Lorenzo Cigliamocchi. By himself? Heiss, *Florence*, i, pl. xiii. 2.
20. 1497. Pattern (bronze) for testoon of Lodovico il Moro. British Museum. Gnechi, *Monete di Milano*, pl. xvii. 5.

## LIX. ITALIAN MEDALS, 1498-1549

1		Z			6				c. 1498
2	I		4				2		1499
3	I	Z		5 4				O	1502
4	I		3	5				O	1503
5	I			5				O	1505
6	I		3						1513
7	I			55					1515
8	I			5	6				1516
9	I		3	5			8		1538
10	I		3	5			2		1539
11	I		3	5			2		1539
12	I			4	5			O	1540
13	I	2		4	5				1542
14	I			4	5		2		1549

## LX. ITALIAN PRINTED BOOKS, ENGRAVINGS, ETC.

1	I	Z	3	4	5	6 <sub>[m]</sub>	7 <sub>[m]</sub>	8	9	O	c. 1467
2	I	Z	3	4	55	6	7	8	9	O	c. 1477
3	I	2	33	4	5	6	7	8	9	O	1478
4	I	2	3	4	5	6	7	8	9	O	1479
5	I	2	3	4	5	6	7	8	9	O	1484
6	I	2	3	4	5	6	7	8	9	O	1491
7	I	2	3	4	5	6	7	8	9	O	1492
8	I				5				9	O	1509



TABLE LIX. ITALIAN MEDALS, 1498-1549.

1. c. 1498. Aless. Vecchiotti. Florentine. The figures 26 give his age; he was born in 1472. British Museum. 2. 1499. Giangiacomo Trivulzio. By Caradosso. British Museum. 3. 1502. John Greudner, by Niccolò Fiorentino or his school. British Museum. 4. 1503. Lodovico Marchese di Saluzzo and Marguerite de Foix. North Italian. 5. 1505. Ercole I d'Este. Heiss, *Niccolò*, etc., pl. viii. 4. 6. 1513 (written MD13). Louis XII. Probably Milanese work. British Museum. 7. 1515. Pietro Antonio da Castello. From the Paris specimen. 8. 1516. Marguerite de Foix, by 'J. J. C.' North Italian (Genoese?) work. British Museum. 9. 1538. Antonio Mula, by Spinelli of Venice. With the broken-topped 8 compare Table LVII. 14. Struck. 10. 1539. Giov. Vinc. Dolci, by Giovanni Cavino of Padua. Struck. British Museum. 11. 1539. City of Venice. By Spinelli. Struck. British Museum. With the peculiar 5 compare that on the painting (also Venetian) by Lotto, Table LVI. 1. 12. 1540. Girolamo Quirini. By Andrea Spinelli of Venice. Struck. British Museum. For the 5 see preceding. 13. 1542. Venetian, by Spinelli. Struck. British Museum. For the 5 see no. 11. 14. 1549. Girolamo Zane. By Spinelli of Venice. Struck. British Museum. For the 5 see no. 11.

TABLE LX. ITALIAN. PRINTED BOOKS, ENGRAVINGS, ETC.

(See also Table LXIV. nos. 13, 16).

1. So-called 'Tarocchi of Mantegna'. From series in the British Museum. These are not really playing cards. The first series (according to the arrangement adopted in the British Museum) is as early as 1467; the second (see no. 2, and the 6 and 7 in no. 1) may be 10 to 20 years later. But according to Kristeller this supposed second series is really the first. Apart from other reasons against this inverted arrangement, it may be noted that the numerals in the 'Arithmetic' are more likely to have been added than removed in a second series. On these engravings see A. M. Hind, *Catalogue of Early Italian Engravings in the British Museum*, p. 224. 2. On a tablet held by figure of Arithmetic, on the so-called Tarocchi cards (one of the copies; the original series is without it). The tablet gives the numerals from 1 to 10, and abbreviations which have been read as a date 14085, but which seem to represent a sum of money (perhaps L(ire) 40 S(oldi)5). From a specimen in the British Museum. 3. 1478. Treviso Arithmetic. D. E. Smith, *Rara Arithm.*, pp. 5, 6. 4. 1479. Venice, J. Marchesinus, *Mammothrectus*. British Museum, I A 19729. 5. 1484. Venice, Regiomontanus, *Ephemerides*. British Museum, I A 20533. Practically, if not identically, the same forms as in the 1482 Venice Regiomontanus (Mr. Lewis Evans's copy). 6. 1491. From Calander's Arithmetic, Florence, 1491. D. E. Smith, *op. cit.*, p. 47. 7. 1492. From Pellos's Arithmetic, Turin, 1492. Smith, *op. cit.*, p. 51. 8. 1509. Italian engraving (Paris and 'Egenoe') after a German original, which accounts for the forms, especially of the 5. British Museum, v. 1-44.

## LXI. ITALIAN LAPIDARY, ETC., 1339-1458.

1	1		33					9		1339
2	1		3	4				88		1384
3	1	2	3		4			9	0	1390
4	1		3					9		1391
5	1		3			6		9		1396
6	1		3				7	9		1397
7	1	2		4						1412
8	1	2	3	4						1423
9	1	22	3	4					0	1423
10	1	2		9			7			1427
11	11	2		4			7	8		1428
12	1		3	44						1434
13	1		3	4			7			1437
14	1		3	4				8		1438
15	1		3	4				8		1438
16	1		3	4				8		1438
17	1	2		4						1442
18	1			44						1444
19	1			4				8		1448
20	1			4	5				0	1450
21	1			4	5					1451
22	1			4	4					1454
23	1			4	5	6				1456
24	1			4	5			8		1458

TABLE LXI. ITALIAN LAPIDARY, ETC.

1. 1339. Verona, San Zeno. Graffito. [E. M.]
2. 1384. Jerusalem, Church of the Holy Sepulchre. Graffito of Pier Vendramin: '1384, 8 lug(l)io.' G. Jeffery, in *Journal R. Inst. Brit. Arch.* (1910), p. 723.
3. 1390, 25 June. Verona, San Zeno. Graffito. [E. M.]
4. 1391. Painting (triptych) by Spinello Aretino at Florence. Virgin and Child and SS. Paulinus, John Baptist, Andrew, and Matthew. In relief below central panel. From a photograph. [A. H. S. Y.] Lettering is the same as on the Virgin's halo; the inscr. appears to be HOC . OPVS . PINXIS SPINELLVS . LVCE . ATITIO . IO . I . A . 1391. Mr. Yeames remarks that it may have been added or touched up at a later date, but has not that appearance.
5. 1396. Verona, Museo Civico. Fragment of Inscription. [G. B. C.-L.]
6. 1397. Lucca, Nuovo Ospedale Civile, on slab let into wall. [W. A.]
7. 1412. Florence, San Marco. Armorial tablet of Segni-Guidi family in cloister.
8. 1423. Venice, SS. Paolo e Giovanni. monument of Tommaso Mocenigo. See Friedländer, *Period. di Numism.* i, p. 146. [From a squeeze supplied by the architect of St. Mark's through Mr. Horatio Brown].
9. 1423. Mantua, Castello. Tablet on wall, recording building of that portion. [G. B. C.-L.]
10. 1427. Florence, Badia. Sepulchral roundel in cloister. S' . DOMINI . ROSSI . ANDREOSI . GIOVANNI . FIL' . 1427.
11. 1428. Oxford, Ashmolean Museum: 'formato a di 17 di gienao 1428, formato nel Gabinetto (?) di Nicholo in gesso.' Scratched in the wet stucco on the back of a stucco relief in the Fortnum collection. The relief has been condemned, but without reason; consulted about the inscription, both Sir George Warner and Mr. Herbert independently, and without seeing the date, pronounced it to be of the XV cent. See Bode, *Florentiner Bildhauer* (1902), p. 162; *Florentine Sculptors* (London, 1908), p. 97, where it is assigned to Luca della Robbia. Other references, kindly supplied by Mr. C. F. Bell, are M. Reymond, *Les della Robbia* (1897), p. 111; Fortnum, *Athenaeum*, Dec. 18, 1897; Bode, *Denkmäler*, pl. 191, pp. 73-74; *Rivista d'Arte*, Jan. 1905.
12. 1434. Bologna. Museo Civico. Tomb of Graziolo Acharisi. The date, however, seems to relate to the death of his son Baldassare. [From a photograph. G. B. C.-L.]
13. 1437. Florence, Bargello. Inscription of Jacopo de Silvestrinis: D. Iacobi de Silvestrinis de Nursia Doctoris sunt hec et Militis Arma Potestatis Florentie.
14. 1438. Florence, Bargello.
15. 1438. Florence, Carmine, over door of sacristy. Epitaph of the Carmelite Angelo.
16. 1438. Florence, Bargello. Arma Tome de Martanis militis i(m)perialis de Spoleto.
17. 1442. Modena. Relief by Agostino di Duccio. [E. M.]
18. 1444. Florence, S. Trinità. Sarcophagus of Giuliano Davanzati.
19. 1448. Florence, Bargello. Arma dni. Iacobi de Silvestrinis de Nursia M(ilitis) et Doctoris, Potestatis F(lorentie).
20. 1450. Fiesole. On a house at Borgunto.
21. 1451. Florence, Bargello. Inscription of Ludovico de' Caccialupi, Podestà.
22. 1454. Cremona, Museo Civico. Date on frame of coat of arms. [G. B. C.-L.]
23. 1456. Berlin. Bust, no. 79 A, inscribed 'Alexa di Luca Mini.' [Mr. A. F. Gow.]
24. 1458, Brescia, Museo. Armorial Tablet. [G. B. C.-L.]

## LXII. ITALIAN LAPIDARY, ETC., 1459-1511.

1	I			4	5			9		1459
2	I	Z		4		6			0	1460
3	I		3	4		6				1463
4	I			4	5	6				1465
5	I			4		6	7			1467
6	I			4			>		0	1470
7	I			4			7			1471
8	I		3	4			7			1473
9	I			4			>			1474
10	I			4	5		7			1475
11	I	Z		4			7			1477
12	I		3	4				8		1483
13	I			44				8		1484
14	I			4				8		1484
15	I			2		6		8		1486
16	I			4				8	7	1489
17	I		3	9					9	1493
18	I			4	5				9	1495
19	I			4				8	7	1498
20	I				5					1511

TABLE LXII. ITALIAN LAPIDARY, ETC., 1459-1511.]

1. 1459. Reggio d'Emilia. On a sculptured lunette in the Museo Civico. Venturi, *Storia dell' Arte italiana*, vi, p. 816.
2. 1460. Verona, San Zeno. Graffito. [E. M.]
3. 1463. Milan, Castello Sforzesco, no. 987. Slab with coat of arms between T O; on frame, TOMAEI GRATO (?) and date 1463. [G. B. C.-L.]
4. 1465. Modena, Museo Civico, no. CXXII. [G. B. C.-L.]
5. 1467. Bruzzano, near Milan. Carved on entrance to a Villa. *Rassegna d'Arte* (1903), p. 88.
6. 1470. Florence, Bargello. Armorial tablet of Giov. de Panaleutis of Civita Castellana, Podestà of Florence.
7. 1471. Noto, Sicily. Madonna by Francesco Laurana. Rolfs, *Franz Laurana*, Taf. 39.
8. 1473. Prato, Pal. Comunale. Armorial tablet of Nero di Stefano di Alessandro del Nero Cambi, Podestà of Prato.
9. 1474. Florence, Bargello. On a bust of Pietro di Francesco Mellini. [W. A.] The whole inscription is inside the bust: AN · 1474 | PETRI · MELLINI · FRANCISCI · FILII · IMAGO · HEC. Mr. Ashburner notes that while the second line is cut by a practised hand, the date is simply scratched in; though not part of the inscription, it may be contemporary.
10. 1475. Bologna, S. Stefano. Over a Renaissance doorway in courtyard leading into the first church. [G. B. C.-L.]
11. 1477, 24 Martii. Milan, S. Ambrogio, atrium. [G. B. C.-L.]
12. 1483. Modena. On frame of a tabernacle in Museo Civico. [G. B. C.-L.]
13. 1484. Cremona, Duomo. On tomb of S. Arialdo, by Ant. Amadeo. [G. B. C.-L.]
14. 1484. Venice, Museo Civico. [G. B. C.-L.]
15. 1486. Verona, San Zeno. [E. M.]
16. 1489. Modena. At end of inscription on a house opposite W. door of Cathedral. [G. B. C.-L.] I take this to be 1489, not 1487; cp. the similar form on the medal of Giulio della Torre of (probably) 1529 (Hill, *Portrait Medals of Italian Artists*, pl. xxii, no. 20, and p. 45).
17. 1493. Perugia. S. Angelo, on carving built into wall near S. door. On the other side of the same doorway is a fellow inscription with the modern form of 4. [Drawing by Mr. C. F. Bell.]
18. c. 1495. Florence, Loggia di S. Paolo. [W. A.] Under the two busts by Andrea della Robbia at the W. and E. ends of the series on the façade: inscr. DALL ANNO 1451 ALL ANNO 1495. The W. portion in Reymond, *Sculpt. Flor.* ii, p. 82.
19. 1498. Modena, Museo Civico, no. VIII. Armorial slab. [G. B. C.-L.]
20. 1511. Milan, S. Ambrogio, atrium, on armorial slab with figure of Christ. [G. B. C.-L.]



## LXIII. INSCRIPTIONS FROM RHODES.

1	1			4		7				1447
2	1			4	5	7				1457
3	1			4	5			9		1459
4	8			Q			8	9		1489
5	1			4				9	0	1490
6	1	2		4				9		1492
7	1			4				9		1494
8	1			4	5			9		1495
9	1			4		7		9		1497
10	1	2			5				0	1506
11	1				5	6			0	1506
12	1				5			9	0	1509
13	11	2			5				0	1511
14	1				5					1515
15	1				5	7				1517
16	11				5		8			1518
17	1		3		5			9		1519
18	1	2			5				0	1520

## TABLE LXIII. INSCRIPTIONS FROM RHODES.

1. 1447. Graffito in Philereinos crypt. Belabre, *Rhodes of the Knights*, pp. 186, 187.
2. 1457. Graffito in chapel on top of tower on rampart. Belabre, p. 92.
3. 1459. Graffito in Philereinos crypt. Belabre, p. 186.
4. 1489. Shield on outwork of Spanish Tower, with arms of Pierre d'Aubusson. Belabre, p. 58.
5. 1490. Inscription of Cardinal Pierre d'Aubusson. Rottiers, *Monumens de Rhodes*, pl. lxxiv.
6. 1492. Inscription of Aymery d'Amboise. Rottiers, *Monumens de Rhodes*, pl. liii, fig. 9.
7. 1494. Graffito in Philereinos crypt. Belabre, p. 187.
8. 1495. Inscription of Cardinal Pierre d'Aubusson. Rottiers, *op. cit.*, pl. lxiii. 2.
9. 1497. Shield of Vilaraguts on a house. Belabre, p. 149.
10. 1502. Funerary slab of Thomas Newport, Spanish Tower. Belabre, p. 59.
11. 1506. Graffito in Philereinos crypt. Belabre, p. 186.
12. 1509. Slab in Street of the Knights. Belabre, p. 121.
13. 1511. Tombstone of Nicolas de Monmirel in courtyard of old Konak. Belabre, p. 164.
14. 1515. Shield of Carretto, Gate of Athanasios. Belabre, p. 66.
15. 1517. Shield of a knight. Belabre, p. 149.
16. 1518. Shield of Prior Flota, Street of the Knights. Belabre, p. 108.
17. 1519. Inscription of Jean Cheron in the Street of the Knights. Belabre, p. 109.
18. 1520. Shield on a house in the Street of the Knights. Belabre, p. 106.

## LXIV. MISCELLANEOUS.

1	I		3						0	1301
2	I					7		8		1303
3	I	Z	3	2	44	6	Λ	8	9	c. 1350
4	I		3		5	6				1365
5	I	22	3	2	5	6	11	8	9	1350-14
6	I	2	33	2	4	6	Λ	8	9	c. 1400
7	I	2	3	2	4	6	Λ	8	9	c. 1400
8	I	2	3	2	4	6	Λ	8	9	c. 140
9	II			2			7			1417
10	I	Z		4						1442
11	II	2	3	2	4	6	Λ	8	9	XV cen
12	I			2	5				0	1450
13	I	22	3	4	5	6	7	8	9	1461
14	I			4		6				1466
15	I			4	5		7			1475
16	I	2	3	4	5	6	7	8	9	1476
17	I			2			Λ	8		1478
18	I			4				8		1484
19	I			4				8	9	1489
20	I			4				8	9	1498
21	I			2					9	1499
22	I				2				0	1500
23	I			2	4					1514
24	I	ZZ	3	4	55	6	7	8	9	1521

## TABLE LXIV. MISCELLANEOUS.

1. 1301. Italian faience. Centre of a large dish (?), presented by Baron C. A. de Cosson to the British Museum. Acquired at Bologna in 1912.
2. 6811=A.D. 1303. On a mosaic in S. Saviour in Chora, Constantinople. For the forms cp. Table XIV. [Photograph from Mr. A. van Millingen.]
3. *Circa* 1350. Astrolabe in collection of Mr. Lewis Evans. Italian (?).
4. 1365. Italian copper-gilt chalice. Victoria and Albert Museum (527-1893). [Rubbing by Mr. H. P. Mitchell.]
5. 1350-1450. Brass dial in form of a ship. Collection of Mr. Lewis Evans. English? French? German?
6. *Circa* 1400. French Astrolabe. Collection of Mr. Lewis Evans.
7. *Circa* 1400. Italian Astrolabe. Collection of Mr. Lewis Evans.
8. *Circa* 1400. Quadrant. Italian or French. Collection of Mr. Lewis Evans.
9. 1417. Chalice. Italian? 1417. On the under side of the base of a chalice of gilt metal with silver bowl and four small nielli around the knop. *Arch. Journ.* xi, p. 72 (where it is read 1517). The provenance is not stated.
10. 1442. Bell in Bologna Museum. [Rubbing by H. B. W.]
11. XV c. Spanish Astrolabe. Collection of Mr. Lewis Evans, no. 2080.
12. 1450. Leaden Seal in Greenland Fishery Museum, Lynn. Probably not English. [Drawing by Mr. E. M. Beloe.]
13. 1461. Italian (Florentine) engraving in the British Museum (Easter Table). A. M. Hind, *Catalogue of Early Italian Engravings*, A. i. 9. Communicated by Mr. Hind.
14. 1466. Plaque from Faenza, Musée de Cluny. Molinier, *La Céramique ital. au quinzième siècle*, p. 28.
15. 1475. Plaque from Faenza, Musée de Cluny. Molinier, *ibid.* p. 31.
16. 1476. Regiomontanus, Venice (Ratdolt). Brit. Mus. and library of Mr. Lewis Evans.
17. 1478. Coin of Sten Sture struck at Stockholm. British Museum.
18. 1484. Window in Museo Civico, Bologna. [G. B. C.-L.]
19. 1489. Medal of Pietro Vettori. This, which is taken from a specimen at Florence, may serve to correct Table LVIII. 18.
20. 1498. Cadière d'Anne de Bretagne. Poey d'Avant, *Monnaies féodales de France*, t. I, pl. xxv, nos. 7-8. [Communicated by M. F. Mazerolle; from a cast of the Paris specimen.]
21. 1499. Bell (probably Flemish or Dutch) at Swinton in Berwickshire: see *First Report of Ancient Monuments Commission (Scotland)*, p. 49, No. 242. Communicated by Mr. George Macdonald. Since illustrated by Rev. J. F. Leishman in *Proc. Berwickshire Naturalists' Club*, vol. xxi, p. 222.
22. 1500. Inscription of Cabral, Portuguese navigator, from Mossel Bay, in Cape Town Museum. See L. Péringuey in *Annals of the South African Museum* xiii (1913), p. 7. [My attention was directed by Mr. Lewis Evans to this stone, of which I owe a photograph to Mr. Péringuey's kindness.]
23. 1514. French leaden sun-dial, Musée de Varzy (Nièvre). Grasset, 'Cadran solaire en plomb portant la date de 1514', 1873. [Communicated by Mr. Lewis Evans.]
24. 1521. Italian brass astrolabe. Collection of Mr. Lewis Evans.



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